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ORIGINAL ARTICLES

ARTHRITIS

RALPH PEMBERTON, M. D.

PHILADELPHIA, PA.

Mr. Chairman and Members of the Society: I am very glad to be with you here tonight, not only because it is always a privilege and a pleasure to have the opportunity of speaking to an audience of the caliber of this one on a topic in which one has long been interested, but more especially because your kind invitation to me signalizes, together with other events, the growing interest which is arising in the age-long problem of arthritis.

I don't know whether you realize that arthritis is the oldest disease of which we have any record. It antedates the advent of man and goes back to the cretaceous period and was the cause of suffering and deformity in the dinossaurs of that remote age.

At the outbreak of the war there was under way in England a large movement, under the leadership of Strangeways at Cambridge, whose aim was the study of arthritis, based upon the conclusion, after a thorough study of the situation, that of all the diseases presenting in the United Kingdom arthritis was the one which most needed study. As long ago as 1885 it was pointed out by Charcot in his salpetriere lectures that arthritis is only one branch of a large pathologic tree and in studying this disease we are studying a morbid process whose manifestations are many and varied. It is by no means the narrow topic which some people think is implied by the term rheumatism or arthritis.

My remarks will be based upon a series of 1,200 cases which, so far as I know, is the largest number that has been studied in a critical way. I will refer briefly to the question of classification because it is necessary to have some common starting ground and it is our belief in Philadelphia, at least, and it has long been the belief in Boston, that the classification of Nichols and Richardson into the proliferative and degenerative type is the best we now have, if only because it is the simplest. The proliferative type may be regarded as that which is often called the atrophic and the degenerative, as that which is sometimes known as the hypertrophic.

A significant step in the grasp of the topic of arthritis was taken when we first realized the importance of focal infection in this disease as well as in others. I wish time permitted me to go into the question of focal infection because there are many angles of that topic which are of great interest, but I am quite sure that with an audience of this sort, it isn't necessary for me to stress the importance of infected teeth and tonsils and so on. With your permission, what I will have to say on focal infection will have to do with the manner in which it seems to have its influence. There is nobody here who believes more firmly in the importance of focal infection than I do but I am sure nobody realizes more definitely than I do the limitations of the influence. The fact that many persons have foci and have not arthritis, alone shows that other factors must be operative. The removal of focal infection does not always cure, as every

one of you must know. Many cases get well by measures of a totally different nature even in the presence of foci. I want to call your attention to the fact that in the army, where we had the opportunity of studying four hundred cases, three times as many men got well in the presence of focal infection as got well after the removal of it. That is not an argument for leaving focal infection inside. I mention it merely because I want to try to evaluate what the influence of focal infection is, what infection does and how it does it.

The influence of the nervous system is obvious, to any student of arthritis, in the condition known as Charcot's joint. Rowntree has recently called attention to the influence of the operation of sympathectomy and the relief thereby of symptoms in the lower limbs in one case. Cecil in New York has called attention to the influence of the menopause and there are other factors showing that something apart from focal infection is operative in many of these cases. But even assuming that focal infection is the only causative factor in arthritis, how does it bring about its results?

In order to explain, on the one hand, the unfavorable action of focal infection, exposure, fatigue, overeating, the menopause and the high incidence of arthritis in midlife; and, on the other hand, to explain the action of factors making for convalescence, such as heat, massage, exercise, a reduced diet, and metabolic stimuli like arsenic and radium, it is necessary to admit a disturbance or underlying physiology expressing itself widely throughout the economy and subject to many influences.

In a recent study we have made of seven hundred cases in civilian life we have found a number of interesting points which I think will bear some emphasis. Women predominated in the proportion of two to one, a fact which has been known before. The average age of onset was thirty-five to fifty-five years. The onset was gradual in fifty-five per cent of the cases. Exposure played an important role in precipitating the disease among men. The origin of arthritis in sixty per cent of the soldiers was immediately consequent upon exposure and forty-two per cent of the men civilians gave the same history. Heredity is a big etiologic factor. Sixty per cent of these cases were undoubtedly hereditary, either collateral by or directly, and one must recognize that if, in a large family of eight or ten, there are perhaps one or two cases of arthritis, the disease can almost surely be postulated sooner or later in some other members.

The chief sites of the foci of infection in these cases were found in civil life in the teeth, tonsils, and genito-urinary tract in the order named and, in the army, in the tonsils, teeth and genito-urinary tract. In other words, in civil life the teeth play a more important part in infection than the nose and throat.

The nervous system is involved in arthritis with s u r p r i s i n g frequency. Twenty-five per cent of our cases showed paresthesiae, of various sorts, including headache, numbness, tingling, muscular twitchings or cramps. Many of these individuals have a low blood pressure and I think it is fair to say that low blood pressure is a concomitant of arthritis, especially of the proliferating type and that it probably contributes to the refractory nature of the disease.

An interesting point has been brought out by my associate, Dr. E. G. Pierce, which may help to explain the incidence of arthritis in women, and that is the fact that in a series of arthritics, thirty-two per cent of the men showed a red cell count lower than 4,500,000, whereas sixty-seven per cent of the women showed a red cell count below 4,500,000. This seems to be due to the fact that the red cell count is normally lower in women and if, as seems to be the case, the blood flow and the blood itself are factors in the production of this disease, this difference in the red count of women may be one of the reasons for the greater incidence of the disease among them. The effect of anemia, so common in this disease, would be to aggrivate this influence.

Among the various studies which we have carried out were those upon basal metabolism, which is slightly lowered in 20 per cent of all arthritis. Without taking your time to go into chemical findings, I will say that the nitrogenous metabolism is apparently normal. There is no apparent justification for withholding a red meat from the arthritic. The influence of the streptococcus haemolyticus and other organisms is toward anemia, and it is certainly unwise, by and large, to withhold from the arthritic those elements best calculated to build up the hemoglobin and the red cell, namely, proteins.

One of the most interesting things we came across during the army work was through a study of the metabolism in respect of carbohydrate, and I am going to ask you to disabuse your minds of any-

thing you may have heard relating to what is known as a lowered sugar tolerance. The arthritic burns his sugar perfectly well, but by a study of the carbohydrate metabolism in the arthritic, we can develop some points of considerable interest. If one feeds sugar, glucose, to the arthritic by mouth, one finds it is not removed from the circulating blood as rapidly as in the normal. This obtains in sixty per cent of all cases.

The degree to which the removal of sugar is delayed in the arthritic is quite striking. For example, one case studied was a boy nineteen with severe arthritis in one hip and badly infected tonsils, and there was great delay in the removal of sugar in the blood after feeding one hundred grams. The sugar reached diabetic figures. After taking out his tonsils, the boy made a prompt recovery from the arthritis. Two weeks after that, upon repeating the same test, the rate at which the sugar was removed from the blood after ingestion by mouth was perfectly normal. This experience was repeated so often that I can state to you with entire confidence that there is no doubt whatsoever of the parallelism of this interesting pathological deviation with arthritis. It occurs in some other conditions also but it parallels no others, so far as I know, as it does focal infection in arthritis. I could show you, were there time, that the return of the delayed sugar removal to normal follows the recovery of the arthritic by whatever means, whether by nonspecific protein injection, by the removal of infection, by a reduced dietary or whatnot. So close is this parallelism that we thought that if we could throw light upon the mechanism involved here, we would also throw light upon the mechanism of the disease itself.

A very interesting fact was observed in connection with further study along this line, namely, that if one studies the blood showing this delayed sugar removal, one finds that the oxygen in the blood also suffers a similar change, in that it increases in amount. What we speak of as the percentage saturation, rises. In other words, as the blood circulates through the body in the arthritic the sugar is not removed as quickly as it should be and, probably for the same reason, the oxygen is not. We tried to explain that upon a chemical basis, studying the so-called dissociation curves of hemoglobin for oxygen and carbon dioxide, but the results were negative from a chemical standpoint and we were driven to try to find a mechanical explanation for it. An explanation could be adduced on the basis of a more rapid blood flow because Wells has shown that blood coming from a hyperemic area contains more oxygen and less carbon dioxid than normal. If one studies the blood from the superficial veins of a man being exposed to external heat one finds, under these conditions of a whipped up circulation a greater amount of oxygen in the peripheral venous blood because the blood goes around so rapidly that the oxygen is not removed as it passes through the tissues. We thought that this might be the explanation of our findings, but, to make a long story short, it apparently is not. We were driven to the view finally that the oxygen piles up with the sugar because, apparently the blood fails to reach all of the tissues of the body adequately. We therefore conducted an experiment to try to bring this about artificially by taking arthritics, who showed a normal sugar tolerance, and interfering with the blood supply in three limbs. Carrying out this experiment while feeding them with glucose, we were able to induce in sixty per cent of our cases the lowered sugar tolerance just as we see it in the arthritic. In other words we were able, experimentally to reproduce part of the dynamic pathology which accompanies this disease.

I wish there were time to go into the question of the influence of some of the measures which benefit arthritis because they also reflect something of the pathology underlying the disease. I will take time merely to say that heat and massage and exercise are among the three agents of most value to this syndrome and they have been from the time of Hippocrates. Heat, briefly, produces an alkalosis. Exercise produces an acidosis. Obviously the chemistry of those two measures cannot operate in the same way to modify the disease. We studied massage to see whether it did either of these things. It does neither but it does increase the red cell count. To make a long story short, we found from studying these three measures of real value to the arthritic syndrome, that the common denominator is apparently their influence upon the circulation.

Now, if it be true that the circulation is disturbed in arthritis, it ought to follow that a suggestion of this could be picked up in studying the blood count at the periphery and my associate, Dr. Pierce, has recently completed and published a very careful study of the red cell count in

arthritis. It appears pretty clearly that, whereas in the normal individual the first drop of blood that comes out from the finger has a red cell count higher than the red cell count of the fourth or subsequent drops, in the arthritic, in the majority of cases, the opposite holds. The first blood coming out from the periphery is lower in red cell count than the fourth or subsequently issuing drops.

Dr. Pierce and I have also tried to check this up in terms of the capillaries. As you probably know, the work of Lombard fifty years ago, was buried in obscurity for quite a while but has reecntly been resurrected—and a profitable study of the capillary beds can be carried on under the microscope by using a drop of paraffin on the cuticle of the nail. By making a careful study of the capillaries, in this way, I am able, as a preliminary statement, to report that it seems that in the arthritic the capillary system is less filled with blood than in the normal.

The evidence that we have suggests that the capillaries in the arthritic tend to be closed down somewhat and in that way can we best explain at present the anomalies of the blood count and the delayed rate of sugar removal which I have hastily described to you.

It ought to be possible, therefore, to correct this delayed sugar removal and perhaps to benefit the individual clinically by means of vasodilator drugs. I may emphasize again in this connection that the dilatation which follows massage, exercise and heat is an important factor in helping the arthritic symptoms.

Again, to make a long story short, by giving sodium nitrate to these individuals, we were able to show two things:

1. The delayed sugar removal observed in the arthritic after ingestion, can be restored more or less toward normal by the induction of vasodilatation, with sodium nitrite and comparable drugs. 2. In 30 per cent of a limited number of cases—we have been able to show a clinical betterment from the use of these drugs. I beg of you not to take this statement as any recommendation of a panacea. It is not that at all. The greatest value of the observation indeed is in corroboration from the clinical side of the precise laboratory evidences we have tried to adduce. Don't, please, feed your arthritics sodium nitrite thinking you can thereby make them well. This is simply a measure which may be regarded as more or less analogonus to the use of heat, and, therefore, with patients on the border-line of convalescence you may sometimes be able to help them over the edge.

One more word about the pathology and then I want to speak to you about treatment. In giving a talk last spring at Dallas, Texas, along somewhat similar lines before the Section on Orthopedic Surgery, my remarks were discussed by Dr. Stern of Cleveland. He quoted the work done by Wollenberg in 1908, who ligated the patellar vessels in dogs on the basis that the blood flow might be concerned and was able to show that there follows an overgrowth of bony nature suggesting the changes of arthritis. My colleague, Dr. Goldhaft, of Vineland, New Jersey, working with us, has been able in a small series of dogs, to reproduce that work and after about four to six months it has been of the greatest interest to us to see that if one ligates the blood vessel of the patella in dogs, there takes place in about that time an overgrowth of the margins of the patella extending downward and forward much as one sees in the degenerative type of arthritis.

So much for a brief survey of the pathology of arthritis, which I have presented to you because I feel very strongly that any attempt successfully to treat this disease must be based upon a broad angle vision of the problem and not upon a narrow, fixed viewpoint.

There will not be time to go into the various factors of treatment. I cannot take up with you tonight the influence of the removal of focal infection, of vaccines, non-specific protein and so on. I will have to confine my remarks to a few measures which bear upon the concept of the disease as a whole from the standpoint of dynamic pathology. With the exception of the therapeutic procedures I have just mentioned, most measures of value in arthritis achieve their effect through their influence upon the blood flow or the metabolism or both. This is true of exercise and massage, of heat, radium and the x-ray. Recently the Germans have had quite a flair in the use of the x-ray in arthritis locally with reputed success. Of course, that is a measure which must be used with great caution.

It is interesting to notice that during pregnancy an intercurrent arthritis may subside to an extraordinary degree and in pregnancy as you know, the metabolism may be increased as much as thirty per cent.

I want to stress the influence of arsenic

in this disease. I don't know how many of you know its value here but it is one of the greatest helps we have. In those cases characterized by anemia, it is quite remarkable what it will bring about, especially during the period when the blood count is coming up. Later in the disease when the blood count becomes normal, its influence may often seem to abate.

It is interesting to observe the not infrequently favorable influence of excitement and worry upon the arthritic. Such an influence cannot be used as a therapeutic measure, but is of value in helping us to make deductions as to influence of some measures that improve the disease. Peterson's recent work on the nervous, especially the sympathetic system and the influence it has upon the physical chemistry of the cells and plasma is precisely in line with this observation, and it is fair to say that the influence of non-specific protein injections is due, in part at least, to their influence on the sympathetic system.

If it be true that arthritis is characterized by a disturbance in the metabolism, possibly through the blood flow, and if measures which influence the metabolism help the disease, it should also follow that anything which will lighten the burden upon the metabolism should have value in benefiting -the disease, and indeed this seems to be the case. In a certain proportion of selected cases, possibly thirty or forty per cent in all, the influence in this direction of a reduced diet is extraordinarily real. It is no panacea, any more than anything else is, but in a number of arthritics, especially of the proliferative type and especially well-nourished women who are not anemic, a lowered caloric diet has great value. It probably operates in several ways—in the first place, through its influence upon a struggling metabolism, as I have just tried to indicate; but it also cuts down the bacterial substratum in the intestinal tract, which sometimes, at least, is probably the source of a large amount of toxemia from the organisms abundantly growing there. There is no time to develop this matter of diet to the length it deserves, perhaps, but it will call your attention to the fact that when catabolism runs ahead of anabolism the arthritic, in my experience, feels the greatest benefit. The patient must not lose weight indefinitely and there are limitations to the degree that one can push dietetics in arthritis but from an academic standpoint the above fact is of great interest. I must caution you, however, not to use a low diet in the anemic or asthenic subject, the person who is undernourished or the person having removable focal infection. Like most other measures of value it is a two-edged sword and will cut both ways.

If diet is of importance to the arthritic, it might follow that the intestinal tract as a whole is also concerned. You all know the "flair" which colonic irrigation has had in this and many other diseases, and it is only fair to state that that which is removed by colonic irrigation is precisely in large part that which is put in by the mouth. It is something of an Augean task to flush out the colon unless one controls the intake but there are nevertheless cases in which colonic irrigation alone will accomplish a great deal. I sometimes think that colonic massage is almost as important as the irrigation but when they go together they will often prove of great value to the arthritic and you will be able to dispense with the use of diet in some of these cases, through these agencies.

I want to call your attention also to another group of measures of which you have perhaps not heard enough and which in general have not been sufficiently stressed; namely those developed by the orthopedists, especially the Boston school. I am not now referring to the question of braces for bent knees or support for weakened muscles. I am referring to the concept of the individual as a dynamic whole, a mechanical entity, and Goldthwaite, Osgood and their co-workers have developed here a most useful viewpoint. Orthopedists have had to see and treat so many cases which have been mishandled by all of us that they have acquired a wide experience and have developed many sound physiological considerations of value to internal medicine. Appreciation of the importance of a narrow costal angle, the flat chest, ptosis of the viscera, shallow respiration, atrophy of muscles from disuse and the whole complex that goes to make up the "secondary invalid," so to speak, affords a most useful outlook, and I have no stronger urge to leave with you than that you look up, if you have many of these cases to treat, the very splendid work which the Boston group of orthopedists has done in the regeneration of arthritis and other examples of chronic disease.

How much does treatment at large accomplish in arthritis? There are few diseases gentlemen, for which more can be done. Arthritis has been cast into the limbo of unprofitable and hence uninter-

esting diseases but the study of it has been a liberal education to me and my associates. It has taken us into the most difficult phases of physiology and biochemistry and into nearly every field of clinical medicine. There is no disease I know of in medicine, unless it be syphilis, which touches more branches of medicine. Only with an adequate conception of the extent of this disease, it seems to me, can one realize what can be done and therefore what must be done.

In one hundred and eighty-eight carefully analyzed cases we found that in civilian life twenty-four per cent recovered completely, seventy-three per cent were definitely improved or cured and varying numbers below that point were benefited in varying degrees. In the army group seventy-seven per cent recovered completely, which was three times as many as among the civilians. But if one considers the type we have referred to us from all over the country, many in the last stage of the disease and almost hopeless in the eyes of those who send them on, one realizes that this is a pretty fair proportion after all. The significance of youth must be borne in mind. It was probably a big factor in the recovery of so many soldiers and points to the hopefulness of treating the young. It suggests that we ought to get better results than is often the case in this disease, especially if the disease be treated vigorously from the start.

I see that my time is up and I realize how inadequate a survey of this sort must be in an attempted analysis of so large a subject. I want therefore, if I may, to recapitulate some of the leading points in my remarks.

Don't forget that arthritis is only one branch of a large pathologic tree and in treating it you are treating the formations of a host of other potential diseases—skin conditions, ocular disturbances, disease of the nervous system showing symptoms difficult of classification. The rheumatic syndrome is precipitated by a variety of factors of which perhaps focal infections and infectious diseases are as important as any, but exposure, heredity, age, the menopause, intestinal malfunction and a disturbed metabolism are factors of equal or even greater weight. Apart from local bacterial depredation in the joints, which of course sometimes occurs, the effect of foci and the several other factors is apparently through the intermediation of a disturbance of underlying physiology.

It is my belief that some of the bony changes take place by virtue of the interaction of carbon dioxide or alpha hydroxy (fatty) acids, developed at the site of lowered metabolism with the fixed bony bases. The evidence for the view that arthritis is a disease characterized largely by disturbance of the finer vascular supply, with secondary metabolic changes, is to be found in the changes in basal metabolism, in the delayed sugar removal, the reproducing of an anemia of the limbs, in the studies on massage, exercise and heat, the use of nitrites clinically, in the red cell counts I have mentioned to you, and in the general nature of the agents which influence arthritis and which, by and large, hasten the blood flow, the local or systemic metabolism or both.

Successful treatment of this disease depends upon appreciation of the many factors involved. Focal infection there is no time now to stress. The clinical value of arsenic, radium, heat, massage, exercise and the work which the orthopedists have done I have tried to outline briefly. It is important to remember that if arthritis is characterized by a disturbed local or systemic metabolism in the manner indicated, there should be value in lessening the burden on it, and that seems to be the case following the uses of a lowered diet. Don't forget that the colon is an important factor in a large number of cases and irrigation may be of great assistance.

I am convinced that many more cases can be helped in this country than now are. It is important in treatment to combine various sound measures more frequently than is usually the practice. Don't be content with taking out tonsils or teeth as treatment often only begins then. Bear in mind, however, that the arthritic is a sick individual who cannot necessarily stand an extensive amount of therapeutic activity at any one time. There is no panacea in this disease and only an intelligent combination of the measures which are of value will help in the majority of established cases. You may be able to succeed with some given measure in three or four cases, but it won't necessarily apply to a larger group; whereas, if you have a number of measures at your command and know the relation they bear to each other and to the disease, you will be able to accomplish a great deal more.

Finally, let me say to you that while it is important for us to study arthritis and learn more about it—nobody appreciates that perhaps more than I do myself—it is equally important for the profession to

learn what is known about this disease. A vast amount of information is available, from a variety of sources, which is not adequately utilized and I have tried to suggest to you where to turn to take advantage of it.

Those of us who are studying this disease are in the position, if I may make such an analogy, of Trudeau fifty years ago in his struggle against tuberculosis. He had to educate society to know what the disease meant and develop a program among the laity and profession alike before its seriousness was appreciated. Arthritis is undoubtedly one of the great scourges of society. There are few diseases that constitute a greater economic burden than it does and in order to tackle it successfully one must know at least what is known today about it. It is only through the assistance of my associates, Dr. E. G. Pierce and Dr. F. A. Cajori of Philadelphia and my colleague, Dr. Robert B. Osgood, in Boston that we have been able to accomplish what we have in the study and treatment of this problem. The patients who come to us are not all relieved—anyone who pretends to cure all cases of arthritis is either ignorant or worse—but we help them in sufficient numbers for me to be able to say to you that, of the hosts of arthritics in this country, thousands are doomed to wheel chair invalidism who could be save from it, if adequate use were made of the measures which already exist in the treatment of this disease.

THE THERAPEUTIC VALUE OF HILL GROWN GRAPEFRUIT*

E. C. TAYLOR, M. D.
R. H. ALTER, M. D.
JACKSON, MICHIGAN

The efficiency of citrus fruits, particularly grapefruit, as a medicinal agent, has been known for several years to the profession of Florida, especially to those doctors located in the central part—or ridge section of the state—where the highest quality fruit is grown. In the last four winters which I have spent in Florida I have heard much of this, but gave little heed to it. Two years ago I heard discussions about the wonderful results obtained in diabetic conditions, arterial hypertension, etc., especially the former, by the free use of grapefruit grown on the hills of Lake County. I was still skeptical and advised analysis of the grapefruit grown in different sections of the state in the laboratories of Johns Hopkins, the University of Chicago, or the University of Michigan, to determine what element—was present which might produce the results claimed. I pointed out that, if such results were obtained, an effort could be made to secure thorough investigation and possible approval of the profession, but that the greatest caution should be exercised in using any general public advertising or propaganda in the meantime.

When I reached Florida about January 1 of this year, I found that an effort had been made to follow out my suggestions, but the whole matter had been badly bungled and no reports of any kind had been made. I was staying at the Hotel Floridan at Howey-in-the-Hills, where the greatest citrus fruit development in the world exists. The W. J. Howey Co. was so much in earnest about going to the bottom of the question in an ethical way that they had established a laboratory and small clinic which had been for a year or more in charge of Dr. Emile Roy, a thoroughly ethical physician formerly of Tulsa, Okla., a good laboratory man, scientific by nature and practice.

Dr. Roy himself had come to Howey-in-the-Hills three or four years previously, an advanced and hopeless diabetic, covered with boils and abscesses. All modern treatment (and diet) including Insulin had been thoroughly tried, to no purpose, but having discovered a short time before in his practice that cases of persistent vomiting from disturbed metabolic conditions were instantly relieved by grapefruit juice, he decided to try it in his own case. The result was that after six months of intensive use of grapefruit grown in the Hills he had gained sixty pounds in weight, all gangrenous abscesses had healed, and all sugar had disappeared months before. His health has been good up to the present time: he contemplates returning to his practice. Whatever there is in this discovery belongs to Dr. Roy, who has enlarged upon his investigations until he has a very large number of clinical cases with positive and most gratifying results.

Dr. Roy makes the convincing statement that every case of diabetes and glycosuria, where no degeneration of the pancreas has taken place or no cerebral pressure from brain growth exists, will become sugar free in a few days under the usual antidiabetic diet and six grapefruit daily, grown in proper soil conditions on the hills. In addition he says:

Replying to your request of yesterday, it would be a hard, long, and tedious labor to give you all the data relating to my clinical work with the grapefruit. Principally would it be out of the question to write a monograph now on the wonderful merits of the highland grapefruit in such conditions as hypertension (high blood pressure) and diabetes, for the good and simple reason that my investigations are not completed and therefore have not been submitted to any reliable body of medical men. However, the preliminary report of the work is in the hands of the American Medical Association. To give the details of what I have done and what remains to do would be dry reading for the lay mind, but the following no doubt will interest you and your friends.

So far as I know, up to this time I am the only one that has done any scientific and systematic medical work with the grapefruit as a therapeutic agent, and the only one in possession of the active principal contained in it or developed in the process of metabolism, and of its physiologic and therapeutic properties. Even the Bureau of Chemistry of the Department of Agriculture at Washington has not done anything further than the determination of soluble solids, sugar, and acid.

My investigation and analysis have proved to me long since that the acid contained in the strawberry, red raspberry, pineapple, and even some grapes, is the readily oxidized citric acid of the citrus fruits, but never have I been able to get with the above fruits the results I obtained with the orange and more so with the grapefruit, to the point of controlling with the grapefruit an acid cystitis in a very short time.

As you know, high blood pressure is not a disease, but a symptom of disease, and often an effort of nature to obtain a balance or harmony in the working of the different organs. For instance, in old people with arterio-sclerosis, if it was not for the high blood pressure to force the blood to remote parts of the extremities, a gangrene would result, etc. Hence to depend only on the highly designed mathematic instruments of today, and neglect the incomparable clinical experience might prove disastrous.

Without going any further into this, let me make the statement now, that unless the high blood pressure is due to a destructive organic lesion, grapefruit will restore a normal condition in the blood flow and an equilibrium in metabolism. The same holds true in glycosuria.

If you bear in mind my own case and the reports you have received from your friends, it all substantiates what I claim.

I have very much to do yet, and much that I cannot do at the present time, before I can commit myself in toto. Now, as last year and before, I stand back of the statements, written and verbal, which I made that our grapefruit possesses potential value in the treatment of disease due to faulty metabolism, which is not to be found in anything else.

The fruit diet and fruit fast that I am preaching and practicing bring incomparable benefits, and you may be sure without any contradiction by those who know as I do, that nature has given us in the Hills a grapefruit which has restored me and scores of my patients to a former good health.

With personal regards,

Yours sincerely,

EMILE ROY, M. D.

Dr. M. M. Hannum of Eustis, Fla., has also had considerable experience in his practice with the hill grown grapefruit. Dr. Hannum is one of the most prominent and conservative men in central Florida. I have had two conferences with him on this subject and the following is his statement:

Eustis, Florida,
January 10, 1927.

Eustis Hospital,
M. M. Hannum, M. D.

I began to use Howey-in-the-Hills grapefruit in the treatment of diabetes about April 10, 1925. Up to date I have treated nine cases of diabetes with most satisfactory results. I put these nine cases on a strict grapefruit diet until the sugar was negative, taking diet similar to Joslin's, of course keeping them on grapefruit all the while. These cases varied as to sugar content, age, general physical condition, etc., but everyone cleared up in from two to three days and remained clear so long as I had grapefruit to use.

I want to impress upon you that grapefruit from the lowlands will not produce these results and the only kind that will, in my opinion, is that grown at Howey-in-the-Hills. I judge that fruit grown on the same soil as that at Howey will give the same results, but I have not found it.

I find that Howey grapefruit will clear the system of sugar much quicker than insulin will, and it is more simple and more pleasant.

I have only treated two cases of "simple high blood pressure" with grapefruit. Several of my cases of diabetes have high blood pressure and I am pleased to report that these high blood pressures were reduced from ten to thirty points.

One case of simple hypertension of 200 gradually came down to 158, and the patient is feeling much better in every way. The other case had a pressure of 196 and was reduced to 170 in ten days, but he had to go north and I have no further record of him.

My experience with grapefruit in the treatment of diabetes leads me to believe that we have discovered something which will prove to be much better than insulin in every way.

I just had a letter from a man in Salem, Mass., asking me to send him a box of grapefruit from Howey-in-the-Hills. He is a patient of Dr. Harry Phippen and reports great improvement after using grapefruit.

Yours very truly,

M. M. HANNUM.

Again on February 24, Dr. Hannum gave me clinical reports on several additional cases that came under his care after the above statement, with only one failure, and in that case, a very chronic one, the sugar disappeared rapidly, but an ascending pylitis developed with pus and albumin, and the grapefruit was discontinued for a time.

Perhaps Dr. W. A. MacKenzie of Leesburg, Florida, was the very first medical man to use grapefruit extensively in his practice. Dr. MacKenzie is now retired, but still retains the reputation of being Florida's best known and most conspicuous

physician, and is now one of the most prominent candidates for the next governor of his state. After a long consultation with him, he gave me permission to tell of his experience, which was as follows:

In October, 1918, he was in Washington under service to the War Department when the influenza epidemic broke out. In the south the death rate was unusually high. He hastened home to Leesburg, and was appalled at the conditions he found. After talking over the treatment then in use with the local doctors, he decided that a radical change was necessary, and, appreciating the importance of establishing an alkaline media in the digestive tract and as far as possible in the blood stream, he immediately began the administration of grapefruit juice and soda bicarb, given alternately. No other medicine was used and practically no other diet given. During the epidemic he treated over five hundred cases without one death. The reports of his results caused the Florida State Department of Health to ask for his treatment, which was broadcasted to the doctors of the state. He has received many letters of commendation, not only from Florida but from Europe as well. During the epidemic of influenza in London, England, a few months ago, health officials in that city had posters up all over the town advising people to use grapefruit and soda as a preventative and cure for influenza. Unfortunately for London the best quality of grapefruit for these conditions were very scarce in that city.

One of the outcomes of this agitation was to stir up the largest distributers of citrus fruits in Europe, and I personally saw an earnest appeal from them to the largest producer of hill grapefruit in Florida for a contract to furnish them 50,000 boxes of his grapefruit per year at an exceedingly fancy price, but the demand had to be cut in half because of his inability to furnish such an amount until more groves come into bearing.

My own observation and experience, both clinical and laboratory, during the months of January and February covered a total of perhaps forty cases, all of them advanced, twelve of them diabetic. In every one of these cases sugar disappeared inside of six days, and in every one occurred the most remarkable improvement in general health that I have ever observed in my long professional life.

The reduction in blood pressure in every one of twenty-five cases of hypertension was beyond belief. I will give briefly two cases to illustrate the many.

C. L. P.: of Plainfield, N. J., age 82, a former prominent attorney in a Vermont city, retired sixteen years before on the discovery that he was diabetic. He has led the most careful life in every way possible since that time and has been under the watchful care of his physician constantly. He consulted me on Feburary 18, when he had not been sugar free in sixteen years. He had a blood pressure of 238/92, urine: Sp. gr. 1010—acid—albumin negative—sugar 5%. I did not change his usual careful diet, but advised him to discontinue any medicine he might be taking for a few days. He returned to Orlando. I instructed him to take with him part of a box of the hill grapefruit and eat six daily. He returned on the morning of February 23, four and one-half days later. Examination showed blood pressure 180/82, absolutely sugar negative. I cut him down to three grapefruit daily, and he advises me by letter that he feels fine and continues sugar free.

Mr. McF.: of Oklahoma City, age 62, diabetic for two years. Arrived at Howey, January 20. Was so debilitated that he could hardly walk unsupported. Because of a uremic retinitis he was almost totally blind, and could walk through the hotel lobby only by supporting himself by the chairs, thus feeling his way. He had gone the extreme limit of insulin dosage without benefit, and the nephritis had constantly increased. Examination was made January 20 by Dr. Roy: blood pressure 264/150, urine loaded with both sugar and albumin. He was put on six grapefruit daily. I examined him four days later with Dr. Roy, and again on the fifth day. Blood pressure was then 150/120, sugar negative, scarcely a trace of albumin, and eyesight 50% improved. Two days later he was albumin free, sugar free, and the diastolic blood pressure had dropped to 90. He continued rapidly to improve in weight and strength, took long walks alone, and his eyesight became practically normal. After four weeks of this freedom from sugar and albumin, I put him on lowland grapefruit for 36 hours, and the sugar promptly returned. I switched him back to the hill fruit, and in 24 hours he was entirely free again and remained so up to the time I left.

I tried the change to other grapefruit in nearly every case I saw, with exactly the same result.

Upon my return to Michigan in March, at a meeting of the Jackson County Medical Society, I made an extended report of my clinical experience with "Howey-in-the-Hills" grapefruit in diabetes, hypertension, and acidosis, and immediately received, not only commendation, but universal co-operation from the members of the Society. Patients were turned over to us for treatment, and many others were given the grapefruit under our advice, but directed by the family physician. In a few instances, enough interest was shown by the doctors and patients themselves as to diet and care, to make possible a fair chance for good results.

Since March 20, we have had under our care 41 cases. Approximately 60% of these were constant users of insulin, and in every case it was discontinued immediately upon beginning the grapefruit. In only one case has a single dose of insulin been given after the treatment was started. That one case was a boy of 13, who, in the absence of his mother, broke into the pantry and stuffed himself with everything he could get his hands on, with the

result that he brought on an attack of coma, which necessitated insulin. As this case had been made sugar free on three occasions and each time he had brought on a relapse by the same proceeding, we discontinued our services.

Of these 41 cases, approximately 80% became sugar free inside of five days after the grapefruit treatment was started, and continued negative so long as anything like proper diet was used. Of these cases, 28 were under our direct care, and of these 28, 100% became and continued sugar free so long as we could get the grapefruit. Practically everyone is still negative up to the present time, August 1.

Some of the most remarkable results obtained have been in cases where the treatment has been directed by mail and the patients never seen, histories being sent in by attending physicians and by patients themselves, who, by long experience and education, were able to carry out dietary measures intelligently.

Dr. R. H. Alter, who has been associated with me in this investigation, has, in the main, had charge of the diet in most of the cases under our direct charge. In 10 very bad cases, selected for the purpose, he did complete blood chemistry, with the results appearing in the three sample cases, which are typical of them all.

All patients at the beginning of treatment had the nature of their disease and the necessity of the strictest co-operation explained to them. Each was then supplied with a pair of diabetic scales, a diet slip showing the number of grams of each article to be eaten during the day, and a urine bottle graduated in cubic centimeters. They were requested to bring a specimen of the mixed twenty-four hour excretion to the office each morning for examination, noting the number of cubic centimeters of urine voided in the twenty-four hours.

They were placed at the beginning of treatment on a low caloric diet, which was gradually increased until the patient developed a glycosuria. When this point was reached, the treatment varied according to the nature of the case. In a general way those patients who had a glucose tolerance of approximately ninety grams per day or less were given six grapefruit per day in addition to their previous diets, being instructed to eat one grapefruit with each meal, one between meals, and one at bedtime. Those having a glucose tolerance of above ninety grams were also instructed to eat six grapefruit per day like the others, but their previous diet was reduced in such a way that their glucose ingestion, including that found in the grapefruit, was below the tolerance of normal individuals.

The grapefruit used were very uniform in size, and the edible portion weighed approximately 300 grams. Chemical analysis shows that they contain 31.2 grams carbohydrates, so that when the six grapefruit were added we were increasing the carbohydrate content of their diets by 187.2 grams.

The results were uniformly good when the patient co-operated well.

CHART NO. 1—MRS. M. K.

Date	Protein	Fat	Cho.	Glucose	Number of Grapefruit	Urine in c.c.	Gms. Sugar Excreted	Blood Sugar
5-4	34.1	163.8	29.7	65.7	0	1530	.....	.....
5-5	34.1	163.8	29.7	65.7	0	1485	0	.....
5-6	34.1	163.8	29.7	65.7	0	1461	0	.....
5-7	34.1	163.8	29.7	65.7	0	1425	0	.....
5-8	54.3	210.5	37.3	89.4	0	810	0	.....
5-9	54.3	210.5	37.3	89.4	0	990	10	.....
5-10	54.3	210.5	37.3	89.4	0	.....	8	.....
5-11	54.3	210.5	37.3	89.4	0	1035	11	.....
5-12	54.3	210.5	37.3	89.4	0	946	20	0.18
5-13	54.3	210.5	37.3	272.6	6	1560	18	.....
5-14	54.3	210.5	37.3	272.6	6	1260	0	.....
5-15	54.3	210.5	37.3	272.6	6	1140	0	.....
5-16	54.3	210.5	37.3	272.6	6	1320	0	.121
5-18	54.3	210.5	37.3	272.6	6	1250	0	.10
5-20	54.3	210.5	37.3	272.6	6	1380	0	.098

Chart No. 1 is the record of Mrs. M. K., a woman 37 years of age, weighing 207 pounds, who gave a history of having had diabetes for over a year. It will be noted that she remained sugar free until her diet was increased to the point where it contained 89.4 grams of glucose. In the following 5 days she averaged excreting 13.4 grams of sugar daily. She was then instructed to eat six grapefruit daily in addition to her previous diet. This increased the carbohydrate ingestion from 89.4 grams to 272.6 grams, yet she became sugar free the following day. She has continued on this diet for two months without showing a glycosuria, except for an occasional day when she broke diet and ate additional carbohydrates. Her blood sugar has remained within normal limits since the fourth day following the beginning of the grapefruit diet.

Chart No. 2 of Mrs. A. W. K., is the record of a more severe diabetic. Over a period of 5 days she excreted on an average of 21 grams of glucose. She was then given six grapefruit in addition to her diet, and for the following 5 days the sugar output was increased. Her diet was then increased to contain eight grapefruit per

CHART NO. 2—MRS. A. W. K.

Date	Protein	Fat	Cho.	Glucose	Number of Grapefruit	Urine in c.c.	Gms. Sugar Excreted	Blood Sugar
5-6	34.1	163.8	29.7	65.7	0	.....	....	.....
5-7	34.1	163.8	29.7	65.7	0	1800	20	.....
5-8	34.1	163.8	29.7	65.7	0	1780	21	.....
5-9	34.1	163.8	29.7	65.7	0	1620	20.2	.....
5-10	34.1	163.8	29.7	65.7	0	1680	14	.....
5-11	34.1	163.8	29.7	65.7	0	3600	30	.....
5-12	34.1	163.8	29.7	248.9	6	2800	36	.....
5-13	34.1	163.8	29.7	248.9	6	2880	36	.....
5-14	34.1	163.8	29.7	248.9	6	2640	41	.....
5-15	34.1	163.8	29.7	248.9	6	2880	42	.....
5-16	34.1	163.8	29.7	248.9	6	3120	47	.....
5-17	34.1	163.8	29.7	315.3	8	.....	....	.....
5-18	34.1	163.8	29.7	315.3	8	2640	....	.....
5-19	34.1	163.8	29.7	315.3	8	2640	38	0.17
5-23	34.1	163.8	29.7	315.3	8	2614	....	.....
5-24	34.1	163.8	29.7	315.3	8	3120	....	.....
5-27	34.1	163.8	29.7	315.3	8	2640	0	.....
5-28	34.1	163.8	29.7	315.3	8	4560	10	0.15
6-4	34.1	163.8	29.7	315.3	8	2890	0	0.12
6-5	34.1	163.8	29.7	315.3	8	2740	0	0.09

day. On the second day following this, her sugar output was still 38 grams, but when she returned 7 days later she was sugar free. The next day she again showed a trace of sugar, but when questioned she admitted eating additional carbohydrates. She has remained sugar free since that time with a normal blood sugar.

CHART NO. 3—MRS. S.

Date	Protein	Fat	Cho.	Glucose	Number of Grapefruit	Urine in c.c.	Gms. Sugar Excreted	Blood Sugar
4-25	29.2	129.9	20.8	50.7	0	1080	12	.....
4-26	29.2	129.9	20.8	50.7	0	.....	0	.....
4-28	34.1	163.8	29.7	55.7	0	3000	0	.....
4-29	34.1	163.8	29.7	65.7	0	2040	0	.....
5-3	54.3	210.5	37.3	89.7	0	1980	0	.....
5-4	54.3	210.5	37.3	89.7	0	2880	0	.....
5-5	92.7	220.2	87.	162.7	0	2280	0	.....
5-6	92.7	220.2	87.	162.7	0	2280	25.3	.....
5-7	92.7	220.2	87.	162.7	0	4200	82.0	.....
5-8	92.7	220.2	87.	162.7	0	4920	85	.....
5-9	92.7	220.2	87.	162.7	0	3960	82	.....
5-10	45.9	144.4	90.	165.	4LL	2800	58	.....
5-11	45.9	144.4	90.	155.	4LL	4200	60	.....
5-12	45.9	144.4	90.	165.	4LL	2040	81	.....
5-13	45.9	144.4	90.	223.	6	3180	85	.....
5-14	45.9	144.4	90.	223.	6	3960	121	.....
5-15	45.9	144.4	90.	223.	6	6000	141	.....
5-16	45.9	144.4	90.	223.	6	3240	162	0.21
5-17	45.9	144.4	90.	223.	6HL	3310	130	.....
5-18	45.9	144.4	90.	223.	6HL	4120	85	.....
5-20	45.9	144.4	90.	223.	6HL	3980	31	.....
5-21	45.9	144.4	90.	223.	6HL	4260	6	.....
5-22	45.9	144.4	90.	223.	6HL	3300	0	.....
5-24	45.9	144.4	90.	223.	6HL	2850	0	.....
5-27	45.9	144.4	90.	223.	6HL	2640	0	.095

Chart No. 3 is of particular interest. Mrs. S., is a very mild diabetic, not showing a glycosuria until the glucose content of the diet was increased to 162.7 grams. She was then given four grapefruit daily grown in the lowlands of Florida. The diet was changed as shown on the chart. On this diet she continued to show a marked glycosuria. Three days later she was given six lowland grapefruit daily with the result that she excreted an additional amount of sugar almost equal to the amount added in her diet. She continued to use the lowland grapefruit for a week but without any tendency to become sugar free. Then without changing the diet, with the exception of substituting the grapefruit grown in the highlands for the lowland variety, she became sugar free on the fifth day.

An analysis of our cases has established certain well defined conclusions:

First, that grapefruit grown on the hills of Florida, where the soil is composed of a top layer of Norfolk loam and a very deep subsoil of red sand clay carrying about 3% of iron oxide, will produce the results obtained by us in diabetic conditions. Fruit from many different localities in Florida was tried, and either no results were obtained or blood sugar was greatly increased under its use. In 18 cases sugar re-appeared in the urine in forty-eight hours after its administration, although in every case there had been from ten to twenty days of freedom from sugar, preceding the use of the lowland fruit. Substitution of the hill grapefruit resulted in as prompt disappearance of the sugar. The fruit grown on the south shore of Lake Harris in Lake County, the section known as the Howey development, is the only fruit we found possessing these merits. We have good ground for the belief that this fruit carries an enzyme, that, in addition to its wonderful power of increasing the alkalinity of the blood and gastro-intestinal tract, and assisting in restoring faulty and unbalanced metabolism, brings these results. I am convinced that any high ridge country grapefruit in Florida will bring good results in hypertension, acidosis, gall bladder and colon infections, but not in diabetes. Our investigations will be energetically carried on until the problem is solved.

Second, our best results were obtained by the administration of six grapefruit daily, analysis of which gives to each grapefruit 2.4 gms. protein, 0.6 gms. fat, 31.2 carbohydrates, which are converted into 32.65 gms. of glucose and equal 139.8 calories. Six grapefruit thus have 839 calories. It will readily be seen that the addition of this number of calories to the usual diet of 1600 or 1800 calories of the chronic diabetic taking insulin regularly would necessarily increase the blood sugar enormously, especially if the insulin be withdrawn immediately after beginning the grapefruit. We found it advisable to cut down the number of calories, prin-

cipally carbohydrates, to an amount equal to one-half, at least, of the total added calories contained in the grapefruit. This, I believe, could be avoided by continuing one-half the usual amount of insulin formerly taken by the patient for three or four days after the grapefruit is started. We did not find this necessary, however, as we started all our cases on our No. 2 diet list, containing 1369 calories, and we never found it necessary to go back to insulin. Every patient almost immediately began improving in general health as soon as they started the grapefruit treatment. At least three patients, who had been declared hopeless and had for months been confined to their beds, were up and about the house and yard inside of two weeks, and all were sugar free within a week after the treatment was begun. An old lady, who had spent months in a well known Michigan hospital, and had not sat up in bed for five months, in two weeks came eighteen miles to Jackson in the family automobile and walked into my office unsupported.

Third, our clinical experience and our blood chemistry have clearly demonstrated that this grapefruit burns much more blood sugar than insulin, and also does what insulin does not, that is, corrects the cause. Its effects are much more lasting than insulin, and we believe that a very large percentage of the cases are substantially cured. I have seen several such cases in Florida, and, while the work has not been carried on in Michigan for a sufficient length of time to make a positive favorable prognosis, there are several cases under our care which are very encouraging in this regard. One briefly follows:

Dr. Dale of Springport, this county, 72 years of age, a busy country physician for 45 years, discovered himself diabetic 27 years ago. He has had the best of professional care, and the most restricted diet, but had never been sugar free except for a few days about 12 years ago, when under a starvation anti-diabetic diet and enormous doses of soda bicarb he got a sugar negative urine but could not hold it. He started the grapefruit about April 1 last, using six daily. In three days he was sugar free and has continued so every day up to August 18, when he last called upon me. He began cutting down on the grapefruit after the first month, and he tells me that for the last month he has taken only a half of one daily, with his breakfast, and his general health has continued to improve.

We do not claim that this treatment will act as promptly as insulin in cases of threatened coma from greatly excess sugar, because it cannot be given hypodermically, but after the grapefruit treatment is well started it has proved to us almost beyond doubt that no such condition will arise unless invited by the patient.

Our results in arterial hypertension in about the same number as the diabetic cases have proved even more satisfactory. In every case where well defined arteriosclerosis did not exist we got a great reduction in blood pressure, in some cases as much as 80 points. Forty and 50 points were common, and up to this time there has been no recurrence. The improvement in assimilation in all of these conditions has been beyond belief.

SOME FACTORS INTERFERING WITH GOOD RESULTS IN ANO-RECTAL SURGERY

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In certain quarters surgical operations for the relief of diseases affecting the ano-rectal region have fallen into disrepute. Patients who have had reason to expect relief, if not cure, have been grievously disappointed after having received surgical attention, oft-times from surgeons of excellent repute and unquestioned integrity.

Surgeons themselves have not been perfectly satisfied with their results in the field of surgical proctology, and many of them would rather assume the care of patients suffering from most any other disease, than one affecting the anus, or rectum. There is no reason why the patient suffering from ano-rectal disease requiring a surgical operation, should not expect as good a result as one suffering from a diseased condition of equal severity, affecting any other part of the body.

Too large a proportion of the patients consulting the proctologist are patients who have been previously treated surgically either by the occasional operator, or the well-qualified general surgeon. From the results of their attempts at operative relief, which the examination of many patients in any proctologic clinic discloses, one is forced to the belief that there is something lacking in the treatment of these patients. There is no reason why the patient suffering from a rectal affection requiring surgical treatment should not expect, with good reason, a result equally as favorable as one who has some disease of the pelvic organs, the urogenital tract or any other locality.

In a busy general surgical clinic, it has usually been the practice for a general surgeon to start with his abdominal, his goitre, or his hernia operations and leave the rectal cases until the end of the session. The surgeon is tired, the hour is late, and the rectal case is operated upon either in a hurry, or turned over to the assistant or the interne to finish as best he can. The surgeon loses all interest in his rectal case after the operation, and the patient receives little, if any, special attention in dressings or after-care and the result is obvious.

Patients who have not received the relief which they expected, and to which they were entitled, after being treated by surgeons of good repute, do not hesitate to condemn the surgical treatment of rectal diseases. Thus they are easily persuaded by the glib advertising of the irregular to try some non-surgical methods of treatment—the results of which are "guaranteed" by their exploiters!

A few pitfalls which can easily be avoided will be mentioned in connection with the discussion of the after-care of the three most common diseases affecting the ano-rectal region, namely: hemorrhoids, fistula and fissure.

Because of the fact that the administration of a general anesthetic is not unaccompanied by some danger and also because there is always more or less cyanosis, which is manifested particularly around the anus, a general anesthetic is to be avoided, wherever possible, in ano-rectal surgery. It is impossible to secure complete local relaxation unless the patient is deeply anesthetized and forced resistance is used to overcome the natural tendency of the sphincter muscles to remain in a contracted state.

How often has it been observed by the surgeon who feels that he must divulse the anal sphincters before operation, that the respiration of the patient is affected by his sphincteric assault; and the patient stops breathing entirely and in some instances has not started to breathe again in spite of all efforts at resuscitation?

When the surgeon has to use so much effort to overcome the normal muscular contraction of the sphincters, it usually means that this result is achieved at the expense of torn and damaged sphincter fibres. Loss of sphincter function, either partial or complete, can usually be traced to this forceful divulsion. One gets such perfect and complete relaxation from local, sacral or para-sacral anesthesia that there is no comparison between the two methods at all.

In the operative treatment of hemorrhoids recurrences are more frequent after a clamp method of removal than any other. The reason for this is that the deeper layers of varicose veins cannot be grasped by a clamp placed on the skin or mucous membrane covering a hemorrhoid.

When an open method is used there is less likelihood of recurrence because one can see whether all varicose veins are removed or not. This is not possible with the closed or clamp method.

Stricture and ulceration are produced more often after the use of the cautery than after any other form of procedure. A burn of the mucous membrane lining a cylindrical cavity tends to contract as all burn scars do. Moreover the use of the clamp means the removal of too much mucous membrane or skin in order to accomplish the removal of the varicose veins beneath with the resultant stenosed orifice remaining.

Stricture and ulceration is also produced by the pernicious method of placing silk or linen ligatures around the hemorrhoids and allowing the stumps to slough.

No technique which includes sloughing is a surgical procedure in any part of the body. The infection of decaying tissue causes ulceration, healing by granulation and contraction. An open operation after first ligating the blood vessels which supply the hemorrhoids, with absorbable catgut, and the excision of just enough mucous membrane for exposure, then the removal of the varicose veins composing the tumor, down to the sphincter is a safe, sure, and surgical method.

Hemorrhoidal wounds should never be closed by suture. They should be allowed to remain open for drainage, as the imprisonment of the bacterial inhabitants of the lower bowel by wound closure invites infection and impairs the result of the operation. The use of electricity in various forms to destroy hemorrhoids is to be deprecated because here again the mucous membrane covering the tumors is unnecessarily sacrificed. Skin tags remaining after hemorrhoidal operations are evidence of incomplete removal of the hypertrophied skin folds which either cover the external varicosities or are produced by extrusion of internal hemorrhoids. They are always found in cases where edema follows a hemorrhoidal operation.

They can be avoided by excision of the hypertrophied skin folds in a direction

radial to the anal opening and corresponding to the position of each internal hemorrhoid removed. The removal of just sufficient of the external skin folds, and not too much, is one of the niceties of a good operation for hemorrhoids.

The use of plugs or packing is to be absolutely avoided after every hemorrhoidal operation. If one has been careful in his hemostasis there is no occasion for gauze or tubes to be left in the rectum excepting in very rare instances, in hemophiliacs. There is no point to keeping the sphincter muscles "in extension" by the use of rectal packing or plugging. These packs or plugs act as foreign bodies and irritate the rectum, producing an early desire for defecation. Peristaltic efforts to expel these contribute largely to the spasmodic pain of which the patient complains when they are used.

After the sphincters have been relaxed by regional anesthesia, they remain relaxed as a rule for several hours after an operation and spasmodic pain is the exception instead of the rule.

If the patient in his preparation for an operation for hemorrhoids or any ano-rectal operation has received cathartics during the preceding day, he is quite apt to have an evacuation either during the operation or shortly following it, particularly if the rectum is also irritated by packing. Therefore cathartics have no place in the preparation of patients for rectal operations. The colon can be cleansed more easily by the use of alkaline or saline enemas.

In the treatment of anal fissure many surgeons still administer nitrous oxide, gas or ether and "paralyze" the sphincter by divulsion. It is true that by putting the sphincters at rest, fissures frequently heal after this treatment. Unfortunately, however, this unnecessarily severe and brutal treatment of the sphincter causes temporary or partial and sometimes complete or permanent incontinence.

As has been stated before, the amount of force necessary to overcome the normal sphincteric resistence is so great that the sphincter fibres are torn asunder, and the nerve supply of this important muscle oftimes is permanently injured. If the crescentic fold of hypertrophied integument located at the outer extremity of the fissure or ulcer is not removed, a good result cannot be obtained. This so-called sentinel pile is usually indurated and non-elastic, and the adjoining tissues are held apart, prevented from healing and tend to split again.

It is better by far, to put the sphincter at rest by an incision at right angles to the direction of its fibres usually, but not necessarily, through the fissure itself. This incision should be carried well out into the skin and the edges of the wound trimmed off for an eighth to a quarter of an inch on each side, the full length of the incision. It is not advisable nor necessary to suture or pack the wound. The edges will fall together.

Only spurting vessels should be ligated. Here again it is inadvisable and decidedly bad practice to use plugs or packs for the reasons mentioned above. In multiple fissure but one incision through the sphincter is necessary to effect a cure.

The cardinal point to be observed in the treatment of all fissures or ulcers of the anal canal is to secure drainage and physiologic rest. One incision through the sphincter will produce rest. Drainage is secured by the trimming of any rough or granular edges, and the incision through the outermost point of the fissure or ulcer carried outside of the sphincter, and well out onto the skin.

While unsatisfactory results have not been infrequent after operations for hemorrhoids or anal fissures, the most unsatisfactory and deplorable failures have followered operations for anal and rectal fistulas. There are many reasons for these failures. I should head the list with failure to make an accurate diagnosis. The mere fact that an opening exists on the skin surface in the vicinity of the anal canal which discharges is important, but unless one knows the origin, direction, extent and ramification of the fistula itself, successful treatment cannot be instituted.

Probing the opening is not only worse than useless, but dangerous, if one uses an ordinary stiff probe or a grooved director. The injection of a colored solution is of some value, because its escape inside the anal canal gives some definite information as to the location of the internal opening.

The only safe and accurate way of making a complete diagnosis is to inject bismuth paste into the external opening and make stereoscopic radiographs. In this way only can the various ramifications, side-tracts, and irregularities in shape, contour and direction be ascertained.

False passages are easily created by the use of stiff probes and examining instruments which are inserted blindly through

the external opening. If any probe is inserted, it should be made of the softest, most pliable suture wire, which will yield and give to any deviation in the shape or direction of the fistulous tract.

Such a probe can be passed with much greater ease after the injection of bismuth paste. The paste being composed of two-thirds vaseline makes an excellent lubricant for the probe. If one observes the anal canal through an anascope, while injecting the bismuth paste through the external opening, the appearance of the bright yellow paste against the pink background of the anal canal as it emerges from the external opening, is most striking!

Because of the fact that a fistula has an external and an internal opening, many surgeons take it for granted that the fistula is a direct channel from one to the other, and forcibly push the probe or director from the external through to the internal opening. They then incise all the tissues between this instrument and skin and mucous membrane. Inasmuch as this procedure usually misses the major portion of the fistulous tract, recurrence, or more properly speaking continuance of the fistula is assured.

Radiographic studies of fistulas have demonstrated that the straight or slightly curved fistulous tracts leading directly from the internal to the external opening are the exception and not the rule.

The practice still indulged in by some surgeons when an internal opening cannot be discovered, of forcing a grooved director through the tissues into the anal canal, thus creating one is extremely reprehensible. This converts an external sinus into a fistula, making matters much worse!

If one wishes to secure incontinence after a fistula operation, a sure way is to incise the sphincter fibres at an oblique angle. Incontinence is almost sure to follow an oblique incision of the sphincter. If one wishes to insure good sphincter union after an incision, then that incision should be made at right angles to the sphincter fibres.

However, even an incision at the proper angle will be followed by incontinence if the severed ends of the sphincter muscle are not allowed to come into contact with each other. How can sphincter fibres grow together and reunite if they are kept apart by gauze packing? Gauze packing should never be used in the post-operative treatment of fistulas! It defeats the very purpose for which it is used. Packing not only keeps the ends apart, but the mechanical irritation of the tissue by the gauze stimulates the formation of fibrous tissue, which fills up the gap between the sphincter ends.

This gap being filled with non-elastic fibrous tissue prevents complete closure of the anal canal and produces fecal incontinence. After the fistula is excised the skin, (and mucous membrane to a less degree), should be trimmed back from the wound so as to convert the trench from which the fistula was removed into a flat saucer-shaped wound. The sphincter ends will reunite if not prevented by gauze packing. The muscle and underlying tissue will heal up to the surface before the skin heals.

Another reason for disastrous results following fistula surgery in the hands of the general surgeon is his yielding to the temptation to suture the wound after the excision of a fistula.

Primary union of fistula wounds is not successful in one per cent of the cases and is a dangerous procedure. In the first place it is impossible to secure an aseptic wound which is the only kind which should be sutured. In the second place, the wound is constantly exposed to fecal soiling. In the third place it is impossible to keep a sutured wound in this region at rest. In personal practice, recurrences after someone's attempts to suture fistula wounds are very common.

Every fistula must be made to heal by granulation. The skin must be restrained from healing as fast as the underlying tissues, and nothing must be allowed to remain in the wound which will interfere with complete drainage.

After all rectal operations care must be exercised to keep the bowel movements from becoming either too liquid or too solid. This is best accomplished by the use of mineral oil given nightly in sufficient quantity to lubricate the passages and not enough to produce oil leakage.

The use of saline or hydrogogue cathartics is to be avoided because liquid stools are always irritating to normal mucous membrane, let alone wound surfaces. Moreover, the use of these cathartics interferes with the formation of a soft formed stool which is nature's dilator.

Contraction and stricture formation is invited if formed stools are not encouraged, and liquid stools produced by hypercatharsis. Dressings should be changed frequently enough so as to keep the parts as clean as possible. Parts should be par-

ticularly well cleansed after each bowel movement.

There are many other factors which interfere with and prevent good results in ano-rectal surgery, but time will not permit their detailed consideration. All that is necessary is to plan the indicated operation with anatomical and physiological principles in mind; to refrain from general anesthesia wherever possible; to indulge in a minimum amount of tissue removal, and to refrain from suturing and packing and to use the same common sense in refraining from meddlesome after-care and still not neglect the essentials that one would use in the surgical treatment of any abdominal case.

ULTRA-VIOLET THERAPY IN GENERAL PRACTICE

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Having become interested in ultra-violet therapy in the summer of 1925, when I used a quartz lamp for several months in my practice with wonderful results, this summer I purchased a lamp and installed it in my office.

I have used the lamp in various open diseases both of the body and scalp and in neuritis, sciatica, arthritis and anemias, rickets, pruitus, vulvi, and ani, in boils and carbuncles, post operative scars and in infected wounds and injuries.

This modality is not a cure-all, but is certainly a very useful adjuvant in the treatment of various diseases. Its widespread use and adoption by all the larger sanatoriums and hospitals, as well as by the leading medical men of the country, is absolute proof of its usefulness and practicability. Its main use several years ago was in the treatment of X-ray burns and rickets and was also used in sanatoriums in the treatment of tuberculosis.

First, I will endeavor to explain the lamp, its construction, etc.

Second, its germicidal action and surgical uses.

Third, dangers.

Fourth, indications.

Fifth, review of case reports of various men using it.

Sixth, conclusions as to benefits to be derived from it.

There is no question but that the field of physiotherapy is a big one and the recent appointment by the A. M. A. of a council of physiotherapy at least assures us that this new field will be censored and the proper credit given.

Diathermy is another large field that is being used and excellent results are obtained with it. Industrial surgery certainly is using ultra-violet therapy and it is a fact that all auto factories in Detroit use this modality in their hospitals.

The use of ultra-violet in ununited fractures and in infections and wounds of various sorts. Pigmented skin is infection proof and some surgeons operate under the rays of ultra-violet lamps.

The dosage of ultra-violet light is still undeveloped but generally speaking:

1. Stimulative treatment—½ minute at 30 inch distance.
2. Regenerative treatment—1 minute at 20 inch distance.
3. Destructive treatment—½ minute to 1 minute at 10 inch distance.

First—I shall endeavor to explain the lamp. The Sun Lamp, air cooled, is the type lamp I own and the one I am the most familiar with. The burner is the most important part and is of the quartz-mercury-anode type. It consists of an arc tube about five inches long with two transverse mercury containers and the electrode vessels all of pure transparent quartz. The electric current is conducted through the burner by ground-in-mercury sealed electrodes to which leads are attached. Fan shaped metal coolers are mounted on the mercury containers and serve to diffuse the heat generated at the electrodes, regulating the current density and intensity of the rays.

The sun lamp hood in which this burner is mounted is of two hemispheres—one rotating inside of the other on pivots. It is of aluminum and one-half is equipped with a selective shutter with openings of different sizes. This is mounted on an upright of nickled steel with an internal counter balance; all of which is mounted on a mobile base with the transformers also on the base.

Second—Action of ultra-violet ray and its uses: Ultra-violet light destroys bacteria, fixes calcium, phosphorus, iron and iodine, breaks down bacterial toxins, increases haemoglobin, normalizes the red and white count, increases blood and lymph flow, accelerates elimination, sedative action on the nervous system, normalizes glandular activity and metabolism and eases pain.

Quoting one of the leading authorities, who has given over 30,000 treatments,

ultra-violet therapy offers to the physician a modality which is:

1. A direct germicide.
2. An indirect germicide.
3. A counter irritant.
4. Increased resistance to infection.
5. An analgesic.
6. Means to depress metabolism.
7. Means to increase metabolism.
8. Means to stimulate sympathetic nervous system.
9. Regulate mineral metabolism.
10. Balance endocrine secretions.
11. Overcome disturbances caused by vitamine deficiency.

Third—Dangers of ultra-violet The main danger of ultra-violet treatment is severe erythema or sunburn and also the danger of conjunctivitis. The eyes should always be covered with goggles and the delicate parts of the body may also be covered. Blondes are more susceptible than brunettes and some people are more sensitive than others. There are four degrees of erythema:

First—Reaction so slight that it causes no subjective symptoms.

Second—Symptoms of mild sunburn and reddening visible and granular exfoliation.

Third—Symptoms of a severe sunburn. Reddening is intense and epidermis can be peeled off.

Fourth—Blister production.

Pigmentation often occurs following sunburn and this necessitates increased dosage. Active pulmonary cases are stirred up with lamp treatments and care must be used in these cases.

The general use of ultra-violet therapy in all leading hospitals, sanatoriums, children's hospitals, industrial plants, athletic and college training tables certainly proves beyond a question of a doubt that good results are being obtained.

This, of course, will depend on the case to be treated and the lamp will not make the diagnosis nor take the place of other necessary treatment. Infra-red, visible sunlight and ultra-violet are the only energies from the sun in nature which effect man. It is accepted that ultra-violet energy acts upon the chlorophyll of plants in the presence of carbon-dioxide and water and builds up formaldehyde and carbohydrates. The uses are governed largely by the wave lengths of ultra-violet used.

The skin allows ultra-violet energy of wave lengths greater than 2,900 angstrom units to penetrate 80 to 120 microns. For the shorter wave lengths the penetration is only 2/10 of a micron. The slight penetration or rapid absorption is the factor which makes ultra-violet the constructive force and distinguishes it from the destructive forces of X-ray and radium.

About 86% by weight of the solids of the human body consists of calcium. The result of calcium deficiency is a change in the hydrogen-ion concentration of the blood leading to acidosis. Acidosis occurs frequently in children, is associated with disturbances of the nervous system and causes gastro-intestinal disturbances. In under-nourishment and inanition acidosis is the rule. During pregnancy and puerperium there is a diminished amount of calcium in the blood. Any unbalance in the mother's calcium metabolism affects the foetus. This calcium unbalance may cause fatty infiltration and later fatty degeneration of liver cells. This may lead to eclampsia. Calcium phosphate is very valuable, but its absorption is governed by the parathyroid glands, necessitating sometimes stimulation of the sympathetic nervous system by ultra-violet light.

Auto-intoxication is associated with acidosis and calcium deficiency benefited by the ultra-violet. The action of ultra-violet on the sympathetic nervous system is the control of the endocrine or ductless glands shown in the treatment of adolescen goitre of young women, ultra-violet and small doses of iodine and proper diet.

Pacini gives the following table:

Death points of various bacteria exposed to Ultra-Violet light Seconds to kill.

Diplococci—	
Gonococci	6
Meningococci	6
Staphlococci—	
Pyogenes Albus	10
Pyogenes Aureus	12
Streptococci—	
Viridens	14
Haemolyticus	18
Mucosus	25
Pneumococci—	
Group 1	25
Group 2	20
Group 3	25
Group 4	15
Bacillus—	
Influenza	18
Diphtheria	10
Tubercle	12
Leprae	15
Colon	18
Typhoid	18
Dysentery	20

Organisms suspended in clear sterile water. Colonies grown from clinical material.

In summarizing the treatment of Radium and X-ray dermatitis, Pacini says:

1. Ultra-violet energy may be used as a preventative against the erythemas produced under X-ray.

2. Ultra-violet energy through its cellular regenerative forces assists in the reconstruction of indolent X-ray ulcers.
3. In the treatment of acute and chronic X-ray and radium dermatitis the biotic qualities of air cooled and abiotic qualities of water cooled should be used.
4. Neither proved or disproved that ultra-violet will prevent damage to cellular structures deeper than 75 to 100 microns.
5. Air cooled or biotic ultra-violet is useful in all forms of acute X-ray dermatitis and in raising tissue resistance in Chr. X-ray. Water cooled or biotic owing to its disquamative capacity does much to relieve acanthosis.

Ultra-violet exerts an influence on body metabolism:

1. Change in quantity of expired co 2.
2. Change in rate and depth of respiration.
3. Increased rate of growth in light compared to darkness.

It has been fully established that exposure to ultra-violet radiations, either sun or lamp, affords protection from rickets to animals and human beings.

A summary of a paper by Dr. Hess concludes on antirachitic properties developed in human milk by irradiations of the mother are increased. Fractionization of the milk showed that this effect was due to an augmentation of the antirachitic (Non-saponifiable) factor.

Suggests that this be done to protect infants from rickets and nursing women from excessive drain of calcium phosphorus.

Ultra-violet lamp therapy is still in the early stage although it has been used for many years. It should be used intelligently and not as a cure-all. Its field is large enough and further studies will bring this out.

OCCUPATIONAL THERAPY AS A METHOD OF TREATMENT OF MENTAL DISEASES*

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Dr. Pattison tells us that "Occupational Therapy is any activity, mental or physical, definitely prescribed and guided, for the distinct purpose of contributing to and hastening the recovery from disease or injury."

Back in ancient times there were temples in Egypt dedicated to Saturn. Beautiful pictures and pieces of statuary were assembled there and surrounding these holy retreats were gardens and fountains. To these delightful spots, patients suffering from melancholia were taken and their minds soon diverted from their unpleasant thoughts.

Pinel of the French school was the first advocate of occupation as a means of cure for the mentally sick, and in his book written in 1791 on the subject, tells of using the lunatic as a beast of burden in the fields. He writes that disobedience on the part of the individual met with severe punishment, but in time proved to be a sure cure. While this form of treatment seems rather harsh, it was a step in advance of anything heretofore attempted.

The first history of occupation used as a means of cure in this country comes from the state of New York a little more than one hundred years ago. At that time Thomas Eddy proposed to the Board of Governors of that state that there should be some form of employment among the insane and so it was decided that they should be trained to do some of the work about the institution. The men were put out in the fields to do some of the lighter tasks while the women were employed in the laundry, and sewing room. This not only proved to be of great benefit to the patients but it was of economic value as well for fewer attendants were required to care for the same number of patients.

The therapeutic results were so noticeable at that time that this means of occupying the patient soon spread to similiar institutions, and it was not long before it became very evident that occupation as a means of cure was a necessary factor in every well organized mental hospital.

To Miss Susan Tracy belongs the credit of giving the first systematic training in occupation. It was she who gave a course to nurses at the Adam's Nervine in Boston in 1906. A few years later the first teacher to devote her whole time to craft work among the mentally ill was employed at the MacLean Hospital at Waverly, Mass.

In 1918, the first school for training occupational therapists was established and about the same time, as our war veterans returned and this same method of treatment was used as an aide to recovery, the public became interested and amazed that this sort of work had been used for so long in our mental hospitals. At that time the work became better organized, the so-called "arts and crafts departments" became known as occupational therapy departments; the work took on a decidedly different nature, and trained instructors were a necessity to carry on the work in

* Read at convention of Michigan Hospital Association held at Kalamazoo State Hospital, June 24, 1927.

these newly established classes. Kindergarten and habit-training classes were formed for certain groups of patients, these being followed up by diversional, occupational, industrial, and in many cases vocational training, while in several mental hospitals there has already been established within the last few years, continuation work with the patient after leaving the institution.

In working with mental patients the primary purpose of occupational therapy is to divert the patient's mind from unpleasant thoughts. The secondary purpose that of giving him a means of livlihood after leaving the institution. Patients who are only slightly demented and already skilled in some form of work are easy to find employment for, those tasks where supervision and not personal attention is required, are well suited to their needs. Such patients are able to work long hours without becoming fatigued, but those who form the real problem for the occupational therapy department, and who derive benefit, are those unskilled in any form of handwork and so absorbed in their own troubles that they take no interest whatsoever in their surroundings. Such patients must be aroused, encouraged to use their own ideas as far as possible and praised for the effort even though the result is of little value. In working with this type of patient, articles made, besides being of a useful nature, as far as possible, should be such as are quickly finished so that the results will not be too long delayed. Most mental patients are much like children, they need a lot of encouragement and praise while criticism should be spared as far as possible. A piece of work poorly done is better than none at all.

Those patients who have been hospitalized for a great many years are, no doubt, our greatest problem and yet they are a most fascinating group. It sometimes takes years to see the slightest improvements but even so, the time and interest spent are well worth the effort. Some patients deteriorate in spite of all that can be done but with the majority the results of occupational therapy within the past ten years have proven to be at least a means to an end.

Those patients recently brought to the institution should be given employment immediately upon arrival. The work should start before the patient has too great an opportunity to observe the mental condition of those about him. The work given to such patients should be so very interesting and the day's program so full that there is no time for self-interest.

In any large mental hospital there are many types of cases and the therapist must have some insight into the condition of each before prescribing the occupation. Not all patients respond to the same treatment, there are no two alike, each is an individual case and must be treated as such. Take for instance the excited maniac, he must be given something sedative; work on a rug loom might help in working off surplus energy, but some craft which is better accomplished while sitting at a table would probably give better results. Clay modeling is soothing, and materials which may easily be destroyed should be avoided.

The depressed patients must be aroused, something bright to work on or some very new craft, is often stimulating while materials which might suggest suicide should be avoided. A contest for such patients is always interesting.

Old people as a rule, regardless of their psychosis, prefer to do something which they have learned long ago, and it is often best to give in to their whims. They seldom have the courage to attempt anything very difficult.

Perhaps the most interesting group of patients are those of the dementia praecox class. These people are not of inferior mental capacity as many are inclined to believe, it is only as far as social adjustments are concerned that they cannot cope with the outside world. Because they cannot make these proper adjustments it is up to us to do all that we can to re-awaken these former activities. The best means of doing this is to draw them into groups as far as possible so that they may be able to work together. This can be done in various ways: raveling, tying and winding burlap, preparing rags, planning work for some other class, making Christmas gifts for some other group of patients, etc. In doing work of this sort they cannot help but observe one another and if the work does entail conversation so much the better.

At the present time there are about 450 patients working daily in the occupational therapy department. There is the kindergarten class composed of about 20 dementia praecox women. These patients are taught to cut and paste, some like to draw, others enjoy putting picture puzzles together, and some can do slightly more advanced work. While at first they are able to do only routine work, their ability varies and many of them often make good

supervisors over other groups of patients.

Then there is another class of women who are very destructive and great care must be used in the selection of work for them. Tearing and raveling are two of the occupations most generally used but the material to be torn or raveled must be in no way similar to anything used about the ward. If bed ticking is torn it should be first dyed. If these patients tear their clothing they are given a needle and thread, and must repair the damage. Material that can be thrown from the window must be avoided. In time many of these patients turn out very creditable work, and are often transferred to a ward from which they may be sent to the occupational therapy centre.

In the receiving hospital for women two classes are conducted daily, one group of disturbed patients is given individual attention, while a group of more comfortable patients are busy at work doing any number of things, the spirit of work is contagious and it is not long before the patient who at first approach insists that she did not come here to work, will often before the end of the week, beg for something to do.

There is still another group of women patients who prefer to work in their rooms and so each is visited twice a week and given materials enough to last until the next visit is made.

As the patients in these various classes improve, a prescription is written by the doctor in charge and the patient comes to the occupational therapy centre, where she is given more advanced work. Basketry, weaving, rug-making, pottery, and many other crafts are carried on here, each craft given to a certain patient for some particular reason. It is generally much better for the patient to learn some new craft than to continue with something with which she is already familiar. A record is kept each week of the patient's progress and as she improves she is graduated to some other department or very often she goes home.

On the men's side there are three classes all just as interesting as those composed of women. One class of old men is especially worth while. About 60 men assemble for two hours each day. Their work is principally sand-papering, and raveling, although some reed, rug work, etc. is carried on. These men are so eager to work that they often conceal burlap under their coats so as to keep busy until the following morning.

Another group of men is able to do more advanced work: toys, bird-houses, small pieces of furniture, rug weaving, etc. are taught here. Then as these men improve, they are sent by prescription to another larger shop where there are greater facilities for working, including jig-saws, lathes, looms, etc. Fibre-reed furniture, lamps and willow work (willow being raised here) are also carried on and larger pieces of furniture are constructed. From this shop the men graduate to the industrial building while others go home, after having learned something which will be of some value to them later.

Each year about fifteen of the women are instructed in gardening. Each is allowed a small plot in which she raises vegetables which do not require cooking, and also flowers. This is another group problem. Many difficulties arise as to the ownership of the implements but by the end of the season peace is maintained. A prize is offered for the garden best cared for; this stimulates keen rivalry and holds the enthusiasm until the end. Some of the patients have raised enough in their own small lots to furnish the whole ward with something special.

During the summer months the patients are taken for walks several times weekly during the occupational therapy classes. These trips are made with some definite object in view. Various articles are gathered which they later use in their work, pine-cones, pine-needles, acorns, long grasses, native clay, butterflies, milk-weeds and wood from the wood pile are some of the products gathered.

Several times a year 75 or more of the occupational workers, both men and women, meet together for a party. Games, stunts, dancing and refreshments are the usual order of procedure. At Christmas there is a tree with gifts—all the work of the patients. In the summertime outdoor picnics take the place of the parties and each fall we plan to have a weenie-roast at the colony farm. Such occasions as the latter are long to be remembered and furnish subject for much reminiscing during the winter months. We plan to let them know in advance. Anticipation is worth so much.

Another feature which takes much of our time and which is especially interesting to the patients is the making of costumes and properties for the plays and pageants which are given each year. In making these costumes much waste material is used and many interesting dis-

coveries have been made through necessity. For instance, discarded window shades are boiled and used. Material in its natural state makes excellent Indian features, fringe, hats, banners, etc. One play called for a duck. That also was constructed of the same material.

Each year fewer articles are made for sale while more work is done for the institution. Rugs, table runners, lamps and wastebaskets have been made for some time. The newest feature to be introduced is that of interior decorating. It began in a very small way, somewhat under protest, and quickly spread to all parts of the institution so that now the larger dining rooms and many of the smaller ones are improved with curtains, screens, special window shades, chair covers and other accessories until they quite resemble any hotel dining room. This work is not confined wholly to the dining rooms but many of the day rooms and dormitories have also been made more attractive. Most of the material used is woven in the industrial department, dyed, decorated, etc. in the occupational therapy department. The patients are extremely interested in this phase of the work and not only look forward to the time when their own dining room or day room will receive its share of attention, but take great pride in the care of these furnishings.

You will have learned by this time that our program is quite varied and involves much work which at first might seem quite foreign to the term occupational therapy, but in working with mental patients the therapist must always be ready to do whatever is asked of her whether or not it is anything which she has previously attempted. Clara Barton once replied, when asked what her mission was in life, "I have no mission and I have never had a mission but I have always had more work lying about than I could do and in trying hard to get it out of the way so as to do one thing more, I have found greater things to do." It seems to me that these words express the typical life of a therapist in a mental hospital. There is seldom an hour during the day when she is not planning some new feature or wondering how best to overcome some difficulty of the previous day. She must have a great amount of patience, and tact, an artistic sense, business ability, and above all she should be able to fit into other departments of the institution. A good therapist should not only be familiar with every possible form of handcraft but she should have a knowledge of its history and source of materials used and she should be always ready and willing to accept new ideas. If one thing does not appeal to the patient there is sure to be something which will eventually hold the patient's attention if only for a short time, and it is up to the therapist to find that special piece of work. There is always some method of approach.

It is not the amount of work accomplished or the sales turned in each month, but when the patient whose stay is of short duration can be made happy and contented and one whose residence has been of long standing can be trained so as to become an asset rather than a liability, the true purpose of occupational therapy will have been established.

CORONARY OCCLUSION*

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I am well aware that I am not giving anything new in this present paper, but I believe that coronary occlusion is a condition much more often met with than recognized by the average practitioner, and it is on this account that I feel there is an excuse for bringing it to your attention.

Harvey reports a case in the death of "A noble knight, Sir Robert Darcy," which was undoubtedly one of coronary occlusion, with autopsy done in which was found a rupture of the left ventricle, through apparently an old scar from a former thrombosis. Its symptoms, of course, went unrecognized at the time. Von Leyden in 1884 reviewed the literature and described the symptoms of coronary occlusion, but his paper was overlooked by the clinicians of his day. In 1906 Broadbent made the statement that there are no characteristic signs or symptoms by which thrombosis of the coronary arteries can be diagnosed. In 1910 came perhaps the first recognized systematic account of this condition, in a paper by two Russians, Obratzon and Strocheska. They described three cases in rather minute detail, two of which were diagnosed before death. Prior to this, however, the Frenchman, Huchard in 1905 recorded some 185 autopsies, and described the status anginosus, symptoms of myocardial insufficiency showing an attack of pain, pericarditis, and pericardial friction rubs, the feeble cardiac impulse, and distant heart

* Chairman's Address, Section on Medicine. Dr. Karshner died from acute hemorrhages four days before our Annual Meeting. This is his last medical contribution.

sounds, pulmonary oedema, pulmonary infarction, and other embolic phenomena. Cardiac infarction, cardiac scars, and aneurysm, sudden death, delayed death, and even recovery from the accident are quite minutely described. Also the German clinician, Krehl, states many of these symptoms in his monograph, "Diseases of the Heart Muscle" which appeared in 1901. He clearly described cardiac infarction with subsequent information, and its general effect on myocardial efficiency. He concludes that the location of the damage is an important factor in determining the occurence of the functional disorder, as in occlusion of the anterior descending branch of the coronary, which may be unattended by any conspicuous symptoms, and yet, autopsy years later, may reveal an old calcified infarct. At other times the accident may be accompanied by intense stenocardia, and the onset of severe myocardial insufficiency. Death may come instantly, or hours or days later, or recovery may take place, the grave danger only being revealed later, or by autopsy probably years later. The scars may give rise to aneurysm with rupture and sudden death. In old patients with diffuse sclerosis of the vessels, symptoms are usually milder, while in young healthy vessels they are more apt to be relatively severe. He confesses mystification at the remarkable suddeness of death, not like death from circulatory failure, and was unable to explain what occurred in the heart.

In "Some Notes on the Coronary Arteries," Dock records instances in 1896. Osler in a monograph on "Angina" describes the condition in 1897, and later in 1910. The subject of coronary occlusion is not found in text books, or "Symptoms of Medicine." Not more than 17 years ago, perhaps because of mental confusion existing between angina pectoris and coronary diseases, coronary occlusion was considered merely one of the incidences in the progress of angina pectoris, and was not by any means considered an independent clinical condition. It certainly was not described so clearly and accurately that any physician familiar with its outlines might recognize it at a glance. The diagnosis was rarely made ten years ago, and was almost unheard of fifteen years ago, except as an explanation of sudden death in angina pectoris. Thayer as late as 1923 gives some interesting observations upon coronary occlusion under the caption "Reflects Upon Angina Pectoris." Hochhaus in 1911 reported four cases, the second two being recognized before death. In 1912 Herrick definitely described the condition—the first of a series from American clinicians. He emphasized particularly the possibility of a recovery from the accident, the possible presence of a large branch being occluded without death. Then followed papers by Libman, Levine, and Tranter, Smith, Gorham, Pardee, Paulin, Williams, Robinson; and Herman, Longscope, Thayer, Wearn, Gardineir, Faulkner, Marble, Englehart, and Sternberg, and White, among Americans. Albutt recognized the condition and discussed at great length the cause of the pain and sudden death.

It might be well at this point to consider the anatomy of the coronary circulation. This has been best described by Gross in his treatise on "Blood Supply to the Heart," which appeared in 1921. According to Gross, the right coronary artery supplies the entire right ventricle, with the exception of the left third of the anterior wall. It also supplies the right half of the posterior wall of the left ventricle, and a small strip of the interventricular septum. The left coronary artery supplies the whole remaining part of the left ventricle, the left anterior portion of the right ventricle which is not supplied by the right coronary, and a small anterior strip of the interventricular septum. The remaining portion of the septum and the papillary muscles are supplied by branches derived from both the right and the left coronary. Many vascular twigs from both coronaries are distributed to the epicardial fat. These vessels are extremely important in determining the symptoms following coronary occlusion. They form an extensive plexus of anastomosising vessels which increase in importance with advancing years. The anterior descending branch of the left coronary is of special importance from the fact that upwards of 4/5 of the occlusions occur in this branch. Distribution of the coronary vessels, however, is subject to wide variation in different subjects which may influence to a great extent the symptoms in a given case. We do not yet know why the same accident is accompanied by such a wide difference in symptoms in different patients, ranging from sudden death to practically an abscence of any symptoms whatever. In experimental occlusion in animals, sudden death is always accompanied by ventricular fibrillation—possibly this may be the case in the human also. Some patients move on to recovery, but with various

forms of cardiac irregularity on the way. It is universally accepted that there is an abundant anastomosising between the right and left coronary, both in their capillary and their precapillary distribution; also between the coronary vessels and those adjacent and attached organs. Though abundant, these anastomoses are not free enough to prevent infarct or the block of a large vessel, but it has been noticed frequently that the area of infarction is smaller than the area supplied by the vessel occluded. This collateral supply is capable of wide development, and if the vessel be small, and gradually occluded, it may finally close, and the heart muscle supplied by it still remain adequately nourished. Anastomoses become much more extensive and effective with age, so a heart of a man 60 can stand occlusion better than one at 20. The extent of the infarction that follows occlusion depends upon many factors: size, location, rapidity of occurence, condition of the general, and of the coronary, circulation; and the age of the patient. Symptoms may be very slight in the case of gradual occlusion of a large vessel, and they may be even unnoticed, if a small vessel is involved, unless several of them have been plugged. Myocardial insufficiency may develop gradually as a result of myocardial degeneration and fibrosis; it is these cases which are known as chronic fibrous myocarditis. According to Wearn the classical symptoms of coronary occlusion do not occur in the presence of myocardial insufficiency. There is usually merely an increase in the dyspnoea and cyanosis already present, and only the suddenness of the change may suggest the real cause.

SYMPTOMATOLOGY

Hamman has classified the symptoms of coronary occlusion under four headings: the immediate symptoms; the symptoms associated with myocardial damage; the symptoms associated with myocardial infarct; and additional symptoms may be of greater or less importance.

The immediate symptoms are characterized by an extremely sudden onset. The condition may be suspected in any sudden onset of myocardial disease, especially if accompanied with pain. It is here that a careful history is important. The pain is similar to that of angina, but is more severe and more prolonged. It may last hours or even days, and morphine may be inadequate for relief. It is known as "The status anginosis." The location of the pain in a general way is similar to that of angina, but is usually quite circumscribed, and is in rather unusual locations. It is frequently referred to the epigastrium, accompanied by tenderness and rigidity of the abdominal muscles, distension, nausea, and vomiting. It may be such as even to lead to laparotomy for relief of some upper abdominal accident. There is profound shock accompanied by an ashen hue to the skin, sweating of the forehead, and a feeble pulse, which sometimes is inpalpable. The extreme prostration continues long after the pain has subsided, while the degree of shock is usually proportionate to its severity. Occasionally there is no real pain—only a feeling of numbness or oppression associated with the striking symptoms of shock. The patient may even be afraid that death will not come to relieve him. There is conspicuous fall in the blood pressure, which may go to less than 100 mm., which accounts for the extremely weak pulse at the wrist. This fall in blood pressure is an extremely important symptom if the patient's pressure before the onset of the accident is normal or above. In angina there is always a rise with the paroxysm which, however, may be of only a short duration. The blood pressure may become so low as to result in actual suppression of urinary secretion. The symptoms associated with myocardial damage include dyspnoea, following the pain and shock, which becomes an extremely prominent symptom. This may occur in patients who have previously been suffering from myocardial insufficiency, but shows, occasionally, in others who have had no previous history of impaired heart action. Its sudden onset and its intensity are its main features. Another important feature is the degree of passive congestion present which is marked by cyanosis and pulmonary odema. The cyanosis appears early, is often extreme, and usually persists through the convalescence. Pulmonary oedema is never absent in those cases with severe or moderately severe symptoms. Moist rales may be present over the lower lobes or fine crepitant rales may be present over both lungs from apex to base. There is usually an irritating hacking cough, which may occasionally be persistent and exhaustive, and may produce small amounts of serous sputa, frequently streaked or frankly bloody, if pulmonary infarct has occurred. Occasionally pleural effusion may develop. Other symptoms of passive congestion come on gradually, and are not remarkable. The liver

swells, and may be tender to pressure; there may be albumen in the urine; and oedema in the subcutaneous tissue. Libman suggests that early and marked swelling of the liver points to occlusion of the right coronary vessel. Cheyne-Stokes respiration appears quite commonly. There is little found on examination of the heart itself. There is no throbbing, and no tumult. This is probably due to the extreme weakness of the cardiac muscle, which accounts also for the distant heart sounds. The area of cardiac dullness is not enlarged, and the trouble may appear to be upper abdominal if nausea and vomiting, and epigastric pains are present. Existing murmurs may be left unaffected, or a new murmur may appear, or an old one disappear without enfeeblement of the beat. Gallop rythm, or embryocardia (tick-tack rythm) may be present, and irregularities are quite common, only a small proportion showing a constantly regular pulse. Auricular fibrillation, auricular flutter, block, pulsus alternans, and paroxysmal tachycardia may occur. Ventricular tachycardia is an unfavorable symptom as it is sometimes followed by ventricular fibrillation and sudden death. There is a marked variation in heart rate on the least exhaustion.

Among the symptoms associated with the myocardial infarct may be mentioned fever and leucocytosis which are seldom absent. The temperature rises usually after 24 hours, and sometimes before, to 100 or even 102 degrees, or more. It may subside in three or four days or may persist for weeks. There is a leucocytosis present which may run as high as 25,000. According to Libman the leucocytosis is one of the most important symptoms in the diagnosis of coronary thrombosis. It may occur in one and one-fourth (1¼) hours after the onset of symptoms, and even then, may be as high as 20,000. More than half of his cases showed from 15,000 to 20,000, with from 78% to 91% polynuclear leucocytes. It is best to examine for this about 6 to 12 hours following the beginning of an attack. If the leucocytosis persists, we suspect a progressive necrosis, or an intraventricular thrombus. This latter is rare. Occasionally the leucocytosis occurs later on as in chronic aneurysm. He emphasized its importance as an aid to prognosis and treatment. It must be mentioned, however, that it alone will not serve to differentiate from an acute abdominal accident with leucocytosis. It is probably due to the absorption of necrotic tissue from infarcted area. Polynuclears in large numbers have been found present in the infarcted area at autopsy, sometimes resembling an abscess from the large number present. Pericardial friction is an extremely important finding when present, and establishes the diagnosis when accompanied with other symptoms before mentioned. It may be transitory and not intense. Wearn found it present in only two of his series of 19 patients. It must be watched for very carefully, as it is localized over only a small area, and may easily escape detection. Its absence in so many cases is probably accounted for by the fact that most infarcts are deep in the myocardium and hence the pericardium is not affected. Embolic phenomena are more common than pericardial friction rubs, but are equally important from a diagnostic angle. Cardiac infarct usually involves both chambers of the heart. Thrombi form on the surface of the infarct, and may break loose, and float free in the chamber. Those on the right side go to the lungs, while those on the left pass into the general circulation, and may bring up in the brain, the cord, liver, kidney, or even in the large vessels of the extremities. If the patient survives, the infarct softens, is digested, absorbed, and replaced by scar tissue, which may later on bulge and form an aneursymal sack, or it may even rupture and cause sudden death.

ADDITIONAL SYMPTOMS

The pain may be epigastric, and the formation of gas may cause attacks of true angina. Flatulence, distension, nausea and vomiting, are quite frequent and occasionally there may be even diarrhea and jaundice. An observer may diagnose gall stones, colic, rupture of a gastric ulcer, or general peritonitis, and may even advise operation. The facies of coronary occlusion is quite characteristic. The patient is blanched, has an anxious look, and is deeply shocked. The features are pinched and betray intense suffering, and mental anguish. As the pain leaves there remains extreme weakness, prostration, dypsnoea, and cyanosis. The skin is ashen gray. Sansom describes it as "leaden tint spread over an earthy hue." This may persist for months following the accident, but in rare cases may not be present. Various vasomotor phenomena are often present such as blanching, sweating, or transient flushing, associated with the sensation of intense heat. Patients generally remain conscious, but may not do so, and may die un-

conscious. Usually there is a profound fear of death present, fainting may occur after the slightest exhaustion, or convulsions may occur. Coronary occlusion may be only suspected in cases which die instantaneously, but it is quite probable if the patient is over 50, if there is a rather marked degree of general arterio sclerosis, and more particularly if there is a previous history of angina. Occasionally there may be only a history of attacks of mild "indigestion." Death may be extremely sudden. It may come during conversation in the very middle of a word. There must be more to this than a mild stopping of the circulation, and it may possibly be due to the onset of ventricular fibrillation. Those patients who live a few hours or days usually have characteristic symptoms, and the diagnosis is not difficult, but the milder cases which recover are much more difficult to diagnose, and the condition may be overlooked. It should be suspected in all cases of mitral insufficiency coming on suddenly with pain or followed by fever, or leucouytosis, or embolic phenomena. The medical attendant should be particularly interested in these milder cases which improve after treatment, as they may influence the condition to a remarkable degree.

Coronary occlusion in about 90 per cent of the cases is associated with coronary sclerosis. It is uncommon before 50 and exceedingly rare before 40. Osler stated that it was limited or confined to the upper classes, but this may be due to the fact that most cases thus far reported have come from private practice, and not from large hospital clinics. John Hunter, Charcot, Nothnagel and William Pepper were victims of this disease, as was, also, probably Ex-President Harding. According to Wearn hereditary syphilis and rheumatic fever have an unimportant relation to the disease. There is no apparent relation to any previous disease, nor do alcohol, tobacco, tea, or coffee, effect its incidence. There is a question whether or not vascular hypertension has any association with the future onset of coronary sclerosis, but this question should be studied further. Patients generally display generalized arteriosclerosis, but it must be remembered that coronary occlusion may not follow the other arteries in this respect. Libman advised the examination of the arteries of the legs particularly. Its relation to hypertension, as said before, is impossible to tell. The blood pressure usually falls during an attack, but in most cases we do not know what the blood pressure was previous to the attack. Syphilis affects the aorta, but very seldom invades the coronary. Previous history is unimportant except in those cases with a histroy of previous angina attacks.

ELECTROCARDIOGRAPH

There may be alterations in the electrocardiograph tracing, which, however, merely shows changes in the heart muscle. I have known of these, but they are not particularly characteristic of the condition, although some observers, particularly Levine, emphasized the inversion of the T wave. This, however, cannot make diagnosis of coronary occlusion certain, it can only indicate changes in the heart muscle. These changes may be signs if taken with other signs or symptoms, especially if the tracings are made frequently and directly following the accident.

PATHOLOGICAL ANATOMY

Hamman mentions four (4) possible causes of coronary occlusion. Diseases of the coronary artery, thrombosis, disease at the root of aorta, and embolism. The chief cause is usually disease of coronary arteries with the final closure due to thrombosis. These two causes as a rule work together. Coronary disease alone works slowly, and may allow collateral supply to establish itself with the result that no symptoms are noticed. This, however, probably occurs very rarely as thrombosis usually supervenes. Thrombosis never occurs in a healthy valve. Disease at the root of the aorta may cause obstruction by compression and swelling over the mouths of the coronary. This more often occurs in leutic aortitis, but seldom in arterio sclerotic disease. Lues seldom invades the coronary arteries themselves. Embolism is an unusual cause of occlusion. It may, however, be due to vegetation from the aortic valve, or to a ribbon of vegetation waving in the blood stream, and floating into the coronary.

PROGNOSIS

Prognosis is rather difficult to give on account of the lack of data upon the disease which is thus far available. There may recur a recovery in some seemingly desperate cases, and also many cases undoubtedly go unrecognized to recovery. Autopsy alone reveals scars as evidence of a former accident. Death often times occurs during apparent convalescence when it may come with extreme suddenness in a patient seemingly out of danger.

DIFFERENTIAL DIAGNOSIS

The disease must be differentiated from angina pectoris. The symptoms may be alike, and often times the lesion may be similar. Death in angina is nearly always due to an occlusion, and coronary occlusion is usually preceded by attacks of angina. Diseases of the coronary arteries are not always the cause of angina, but contrary to the claim of Albutt it is undoubtedly an important one. The rapid closure of a small vessel may give symptoms like angina or no symptoms at all, but the sudden closure of a large vessel gives typical symptoms quite marked from angina. The pain is more severe, and more prolonged. The patient can usually tell the difference between the two conditions, speaking now of those who have experienced angina. The prostration is more profound, and there is a fall in blood pressure, while angina is accompanied with a rise of blood pressure. There is a fever and leucocytosis and myocardial insufficiency which further differentiate it from angina, and the pain is not relieved by nitroglycerine. The presence of pericardial rub makes the diagnosis complete. Myocardial insufficiency may mask symptoms of occlusion of the coronaries. One should search for it in a person past middle life, who develops a sudden myocardial insufficiency, but who has had no heart trouble previously. Rupture of the aorta is hard to distinguish from this condition, while rupture of a branch of the coronary, or rupture of the heart itself may closely simulate it. Perhaps the greatest difficulty comes in differentiating coronary occlusion from some grave abdominal disorder. Levine and Tranter cite incidences of mistakes where it has been taken for acute pancreatitis, rupture of gastric or duodenal ulcer, renal colic, and hepatic colic. Faulkner, Marble and White have emphasized its similarity to cholelithiasis. In the diagnosis the history is of first importance. It occurs uncommonly before 50, while gall stones usually occur before that age. It is more common in men, while gall stones are more common in women. In spite of the greatest care, clinicians of experience are bound sometimes to slip into error.

Among the late results of coronary occlusion we may mention an aneurysmal bulging in the scar, if the scar is large. Probably most aneurysms of the heart have their origin in this manner, as it is usually found at the apex of the left ventricle, due to the fact that the anterior descending branch of the left coronary is most usually affected. Again adhesions may bind it to the diaphragm or to the chest wall.

As it is corollary to treatment early recognition is most important. Early treatment may mean permanent recovery. First of all the patient must be given absolute rest, any strain upon the heart has a damaging effect. They should be kept at rest for a long time, especially those patients where the heart has been previously damaged by rheumatism. Morphine must be given in large doses, enough to control the pain. Levine recommends caffeine and camphor for collapse, and practically all clinicians recommend digitalis to full digitalization. There is no history of rupture of the heart following the use of drugs.

STERILITY IN WOMEN, WITH SUGGESTIONS FOR TREATMENT*

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This study has been made on the records of 300 women who have entered the University Hospital in the past six years giving sterility as their chief complaint. Although on subsequent examination, after their histories were taken, many other patients were found to be sterile, their cases were not taken into consideration.

AGE

The average age of the patients was 29.1 years and the length of time married 7.4 years. This shows that, on the whole, women do not consult their physicians until rather late and after the period of greatest fertility has passed. Some patients, of course, become worried over their sterility very soon and others wait as long as two and a half decades. The earliest patient seen was two months after marriage and the longest period of sterility was 27 years. These two exceptions are by no means the rule, but it shows that women may become interested in bearing children at any time during married life. Two patients entered the clinic when menopausal symptoms had already begun.

TYPES

The cases have been divided into two groups, absolute and relative sterility. The former group included those patients who had never been pregnant and the latter,

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patients who had been pregnant at some time in the past, either having gone to term or aborted, but at the time of examination stated they were unable to again become pregnant. In the former group there were 248 cases and in the latter 52. These figures show that nearly 83 per cent of the patients studied fell into the absolute group.

MENSTRUATION

It is usually thought that irregularity of the menstrual periods has a great deal to do with sterility, either as a cause or as a symptom. This was found to be the case in those patients, who for want of a better name, we placed in the endocrine group. However, in the whole series it was found that 217 women (72.3 per cent) had regular menstruation while 83 were irregular.

FAT DEPOSIT

It is interesting to note that 46 patients (15.3 per cent) stated that there had been a rapid increase in weight within a very short time after marriage. Whether or not this abnormal deposit of fat would have taken place had the patients not entered the marital state, we are not prepared to state. It is generally conceded that this condition is due to some abnormality in function in the endocrine chain, although no doubt many are due to indiscrete dietary habits.

WASSERMANN REACTION

There were, in all, 19 cases (6.3 per cent) where the Wassermann reaction was returned as four plus. A very interesting observation in this regard is that all these patients were in the absolute type of sterility cases. Syphilis is usually conceded to be an etiologic factor in cases of repeated abortion. There were eight cases where abortion had taken place two or more times, in one case eight times, and in none was the Wassermann returned as positive.

HUSBAND

Due to the fact that a large majority of the patients seen in the clinic come from considerable distances, it was possible to examine the husband in only twelve cases. In two of these no spermatazoa whatever were found, and in one the few found were immobile. We believe that in every case, where it is at all possible, the seminal fluid of the husband should be carefully examined microscopically.

RUBIN TEST

Inflation of the Fallopian tubes was attempted in 168 cases, or 54.3 per cent. The reason for these seemingly small percentages is two fold. Firstly, it was often impossible to do the inflation on the day the patient entered the clinic, and on being given appointments for the test, many of them did not return. Secondly, we have never done an inflation where there was any evidence of an acute or subacute inflammatory process in the pelvis. The tubes were found to be closed in 98 cases, or 57.3 per cent of the patients inflated. In 70 cases the tubes were found to be open.

RETROVERSION

Twenty-one patients had complete or third degree retroversion of the uterus. In over 50 per cent of these cases there was found to be an associated inflammatory process in the pelvis. In six cases an anterior subfascial shortening of the round ligaments was done. In only one case, as far as the records show, did subsequent pregnancy take place. This was in a patient where there had been constant backaches since girlhood, and who had been married two and a half years. When last heard from she was three months pregnant. It should be remembered that this patient had a dilatation and curettage at the same time and the dilatation of the cervix might have had something to do with the subsequent pregnancy, but this is rather doubtful. Eventually she might have become pregnant without any operation so that no definite conclusions can be drawn from this.

PELVIC INFLAMMATORY DISEASE

Definite bilateral- pelvic inflammation, with thickened tubes, was made out in 105 cases or 35 per cent. In the great majority of these the etiologic factor was undoubtedly Neisserian in nature, although the characteristic dipplococcus was infrequently isolated. The question arises as to what should be done in these cases. Randall states that he believes less than 1 per cent of tubes are opened by inflation, adding that he believes spasm is present in many cases which seem to be closed and eventually the tubes are permeable to gas. In these cases he advocates the administration of belladonna or some other antispasmodic drug. Many authors, particularly Rubin, advise the injection of lipiodol for the purpose of locating the tubal obstruction. We have not had a great deal of ex-

perience with the use of lipiodol, but have as yet had no ill effects from its use.

The possibility of plastic operations on the tubes should always be entertained, but so far the results of these operations in all clinics have been found to be rather discouraging. Many writers, particularly Estes in this country, have recommended the transplantation of the ovary into the uterine horn when the tubes are absolutely closed. He reported four cases of pregnancy following this operation in some 50 cases. The operation described by Estes, has been performed about seven times in our clinic, but to date no case of pregnancy has been reported. As can be seen chronic bilateral salpingitis is the greatest cause of sterility and surgery in this particular field is as yet in its infancy and better results can be hoped for in the future.

FIBROMYOMATA

There were seven cases in which single or multiple fibromyomata were evidently the cause of the complaint. Unfortunately, in the four patients operated upon it was found necessary to do a supravaginal hysterectomy, but we believe that myomectomy is the operation of choice in these young women if it is at all possible. The psychologic effect of removing the body of the uterus should always be considered.

We have one case in which a cervical polyp seemed to occlude the cervical canal almost entirely. This was enucleated.

DYSCRASIA

In 34 cases an endocrine dyscrasia of some type was taken to be the cause. In 23 of these women the uterus was found to be small and infantile in type. Unfortunately the whole subject of endocrinology is just beginning to be studied and up to the present, most forms of treatment are hopeful rather than scientific. We have, however, been encouraged by what seems to be good results in several cases with two subsequent pregnancies, following the long continued administration of ovarian extract, the whole gland being used.

RELAXATION

We believe that bad perineal relaxation should be repaired in order that the seminal fluid will not be entirely lost after coitus and also that severe cervical infections should be cleared up in as conservative a way as possible.

VAGINAL REACTION

We have done very little work from this particular angle. There is as yet no satisfactory technique for determining the degree of reaction either acid or alkaline of the vaginal and cervical secretions. We have, however, in a few instances been able to examine spermatazoa taken from the seminal pool.

Although, in many of our cases we were unable to find any cause whatever for sterility, unless it be in the husband, whom we were unable to examine, we believe this whole subject of sterility presents a very fertile field for study and that great advances will be made in the next few years. A decrease in mental strain, an increase in familial accord and a great deal of personal satisfaction will be the result of these labors.

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REPORT OF PREGNANCY FOLLOWING INVERSION OF THE UTERUS*

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In a recent article, by Dr. Norman F. Miller in the American Journal of Obstretrics and Gynecology a review of 55 cases collected from the literature was given, and the 56th one reported of pregnancy following inversion of the uterus. The author says that: "Certainly thousands of inversions have occurred and many of these women must have conceived later, but they have gone unrecorded in the literature as is the way with many other interesting conditions." Dr. Miller's article has stimulated me to place on record the following case.

At the 57th annual meeting of the Michigan State Medical Society in 1922, held in Flint, Michigan, I read a paper entitled, "Acute Complete Inversion of the Uterus." This was published in the Journal of the

* Reported at the Detroit Obstetrical and Gynecological Society Meeting, May, 1927.

Michigan State Medical Society in February, 1923.

CASE REPORT

The case reported in this article briefly was as follows:

Mrs. S., age 34. Primipara—rather tall, slight build. Physical condition good. Had first period at age of twelve years. Had always been regular and flow lasted from three to five days. Since periods established she had no pain. Family history negative. She had never had any serious illness excepting a fistula 11 years previous to pregnancy, which was successfully operated. At this time she had two small cysts removed from an ovary. She did not experience any nausea or vomiting during pregnancy. Urine was negative throughout.

Wassermann negative, and blood pressure ranged from 110 systolic, 68 diastolic, to 118 systolic and 70 diastolic. Pelvic measurements were normal. The third month she developed a moderate jaundice with temperature of 102. Temperature kept up for one week and jaundice gradually disappeared. With this the patient had quite a severe cough and tenderness over lower abdomen. As life was noted and motion increased, abdominal soreness continued and she was never free from it until the baby was born.

Patient entered hospital at 3:30 a. m., July 31st, 1921. Pains every 10 to 20 minutes—membranes had ruptured at 8 p. m., and flow of fluid had been gradual. Rectal examination was made and the head was in the pelvis; cervix was soft and dilatation was three fingers. At 5 a. m. dilatation was complete and there was rectal bulging. She was taken to the case room, placed under obstetrical degree of ether anaesthesia, and a seven-pound two-ounce baby was delivered without laceration. One-half c.c. of pituitrin was given. After waiting about twenty minutes, moderate crede was done by the assistant while I held the cord, using no more pressure than in any other case. Crede was used only when uterus was contracting. The placenta was delivered and was attached to the completely inverted uterus. The patient was not out from under the anaesthesia and as the placenta was delivered she gave several sharp cries from pain. As I noted that the mass was too large for placenta alone and was thick at the vulva, the assistant remarked that he could not find the fundus. The cord was an average length. The patient had a moderate pallor and the pulse was 120 per minute. The bleeding was only moderate and the uterus did not noticeably increase in size.

Hot packs were at once applied over the placenta and uterus and with as little exposure as possible the membranes were separated. By firmly grasping the body of the uterus with the fingers of the right hand it was pushed into the vagina as far as possible. Then with the thumb and index finger, pressure was put on the side of the fundus. This portion of the inverted uterus began easily to invaginate and with a steady increased pressure with the fingers the whole uterus gradually invaginated and slipped through the cervix. The closed fist followed the fundus back into the pelvis so that the fundus could be grasped with the left hand through the abdominal wall and was held in this position while one-half c.c. of pituitrin was given and followed by one c.c. of ergot. Then 300 c.c. of normal saline was given in the breast tissue. During the above manipulation the pulse remained at 120 and was a good quality. As the uterus began to contract, the hand was carefully withdrawn and a plain gauze pack was inserted into the uterus. Patient was removed to her bed in twenty minutes with pulse 100 and good quality. The next morning at 11 a. m. patient was in good condition, pulse 100, moderate lochia. Packing was removed. Blood pressure 110 systolic, 70 diastolic. For ten days tenderness was only slightly more than normal over abdomen. Highest temperature was 98.6. Pulse gradually decreased from 100 on second day to 72 on the 13th day when she was discharged.

She was in perfect health and had regular menstrual periods until December, 1924, when she again consulted me. The November period was missed and the December period was of short duration and scanty. Examination showed the uterus in a second degree retroversion with no signs of pregnancy. Her period January 17th, 1925, was a normal one. This was her last period and when she consulted me again on April 24th, I found the usual signs of pregnancy at about two and one-half to three months. The estimated date of confinement was October 24th. Life was noted the 1st day of June. Twice during the prenatal care the patient had a bloody discharge lasting about two days. She was put to bed during these periods. Development was normal until the fifth month, when it was noted that the fundus was not at its usual height. At seven months, the top of fundus was level with the umbilicus. October 3rd, the ninth month, the top of fundus was level with umbilicus; position was L.O.A. When the patient was two weeks over due and as uterine inertia might be expected from previous history she was given two complete trials of quinine and castor oil without effect. When she was 17 days overdue she was sent into the hospital and a bougie inserted at 6 p. m., November 9th, 1925.

No contractions resulted, although at 11 a. m. the following day when the bougie was removed, there was 2½ c.m. dilatation. At this time under gas anaesthesia a Vorhees bag was inserted. Twenty-four hours later, as there were no contractions a pound weight was fastened to the bag. Seven hours later the bag was dragged through the cervix and the dilatation was 6 c.m., but she had not experienced any pain. Quinine, two grs. each hour, was started and 2 m's. of pituitrin every thirty minutes; although the patient did not experience any pain after two hours a slight contraction was noted every two to three minutes. At such intervals she was instructed to bear down and soon the membranes ruptured. Contractions continued

to increase and at 3 a. m. of the 12th, a normal child, 6 pounds, 6 ounces, was delivered. The cord was around the neck once. One-half c.c. pituitrin given at birth of head. Ten minutes later the placenta was delivered without Crede. During the delivery of placenta there was a definite tendency for the fundus to slip into the pelvis.

She made an uneventful recovery and was discharged on the twelfth day. I have examined her several times since this delivery. The uterus is in a first degree retroversion without symptoms. Her periods began after seven months when baby was weaned, and have been regular and normal since.

GOLF BALL INJURY, HEMOPHILIA, OPTIC ATROPHY

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CASE REPORT

C. P., age 31, an American, while working on September 24th, 1926, as a laborer on a golf course, was hit by a golf ball below the right eye. The right side of the face began to swell immediately and the swelling soon spread to the left side of the face. A physician, called to attend him, ordered rest in bed and ice packs applied to the face. The next day the right eye was swollen tightly shut, but before this occurred he states that he had tested his vision in the right eye by separating the lids with his fingers and found that he could see.

Photo by Ruslander

The swelling of his face increased to an alarming extent and he was admitted to the Michigan Mutual Hospital on September 26th. The patient gave a history suggestive of hemophilia, stating that three years before this accident, he had bled profusely following the extraction of a tooth and that physicians had used serum repeatedly by injection, to stop the hemorrhage. His maternal grandfather was said to have been a "bleeder," but it is his belief that his two brothers are not.

The patient was placed in bed with head and shoulders elevated. The entire head and neck were swollen, scalp, face, eyelids and lips being involved. The lips were fully an inch in thickness. The skin had a dark, greenish color which spread not only over the face and neck, but down over the chest as far as the nipples.

The skin at the site of the injury did not appear to be broken but was marked by several confluent deep green blebs. The lids of the right eye were so swollen that they could not be separated for inspection of the eyeball. The lids and conjunctiva of the left eye were swollen but slight separation was possible.

The patient's mental condition was clear, but he was restless. Respiration was difficult. His temperature on admission was 97, pulse 52. Heart and lungs appeared normal and the urine showed no evidence of a pathological change.

Desensitizing doses of hemostatic serum were given followed by 5 c.c. of the same injected intravenously and two subsequent intravenous injections of a similar amount. Twenty grains of calcium lactate were administered every four hours. Boric compresses were applied to the face. Morphine, grain 1/6, was employed for restlessness. Fluids were forced. Blood clots forming in the nose and mouth were frequently removed.

The bleeding continued, the skin discoloration extending a hand's breadth below the nipples. The temperature did not go above 99, the pulse reached 102. Skin areas where fresh bleeding was suspected had a greenish color. The skin over older extravasation became mottled with the tints ranging from green to yellow that characterize ecchymoses.

On September 28th a blood examination showed hemoglobin 55 per cent and red cells 3,000,000. The swelling began to subside on October 2nd, although slight bleeding is recorded as late as October 4th. On October 7th the swelling of the right eyelids had subsided to such an extent that the eye could be examined. The conjunctivae were ecchymotic. The eyeball was intact but the pupil was dilated and did not react to light. The optic nerve was whitish and the margins blurred. The retinal vessels appeared about normal. There were no retinal hemorrhages nor was there blood

in the vitreous. The left eye appeared normal and had good vision.

X-ray plates of the head taken on October 9th were negative for evidence of fracture. The swelling gradually subsided but on the 21st of October there was still some swelling of the right side of the face and the right eyelids. He complained of a numb area over the right eye.

On November 24th the right pupil was dilated, there was complete optic atrophy and no vision with the right eye. He complained of difficulty in judging distances.

From November 28th until December 9th the patient complained of pain and stiffness in the right elbow. The right forearm could be flexed only to a right angle. This condition subsided and he was discharged from the hospital on December 9th. Compensation was allowed for loss of right eye.

It is not clear what was the cause of the optic atrophy. The atrophic changes observed in the right optic papilla as early as the 13th day following the accident suggested the possibility that the atrophy was present before the accident occurred. There is considerable variation in the time which various observers have found to elapse from the date that the optic nerve is injured in the orbit or the optic canal and the date when the atrophy is found to have reached the papilla. Pallor has been noted as early as the sixth day while after 12-21 days the atrophy is generally held to be very prominent. There was nothing further, however, to support the conjecture that there had been a pre-existent optic atrophy. The patient was frank and straight forward, denied any previous trouble with the eye and his complaint of having difficulty in judging distances suggested the recent loss of binocular vision.

Blows about the orbital margins not infrequently cause fracture of the orbital bones or even of those forming the optic canal and in such occurrences the optic nerve may be torn or compressed. Vision in such instances is usually immediately affected which does not agree with the patient's statement that he could see with the eye before the lids were completely closed by the swelling.

Whether there was orbital bleeding or not cannot be stated. The signs of orbital hemorrhage, exophthalmus and immobility, would probably be masked by the swelling of the lids. That an orbital hemorrhage would cause complete and permanent loss of function of the nerve seems improbable.

AN ADDRESS TO THE WAYNE COUNTY MEDICAL SOCIETY

By

Hon. FRED W. GREEN
GOVERNOR OF MICHIGAN

Gentlemen:—

I appreciate most keenly the cordial welcome you have given me tonight. May I assure you that it is not a sense of duty that brings me here this evening but a sincere personal pleasure in meeting with a professional group that not only stand high in my own regard but who, as no other profession, possess the respect and esteem of the public at large. You doubtless have your moments of discouragement when it appears that your services and sacrifices are not appreciated by patients or public. As a layman I can assure you that such occasions are an incidental minority by no means an attitude consistently adopted by the majority.

It seems to me that the wholesome respect and admiration in which the laity at large hold you is illustrated by the reception the public gave to the literary efforts of Sinclair Lewis. This author, as you well remember, painted a portrait of a Business Man, and the portrait so caught the public fancy that Babbitt no longer is the name only of a novel, but is a new word in the vocabulary of the street to describe a type . So much is it on the tongue of all that the ardent member of Rotary or Kiwanis and other luncheon clubs never knows when he is to be insulted by the epithet Babbitt being hurled at him.

Lately this same author has dipped his pen in gall and acid and caricatured the ministry with Elmer Gantry. Many clergymen have felt the pressure of this book and leapt to the defense of their profession.

Arrowsmith, written by the same author, was intended as an unlovely portrait of your profession. Doubtless put out by the author in the hope that it would direct shafts of ridicule at the career of medicine and doctors in general—it fell upon unresponsive soil. The public think too well of you and know you so well by personal experience, that the book did not cause a ripple of interest and is now practically forgotten.

You are therefore to be congratulated for keeping your house in such good order that scoundrels and charlatans cannot mingle with you, let alone attain recognition.

I presume that this keeping up of ideals in your profession is one of the objects of the Wayne County Medical Society. Doubtless you have other purposes and objects as part of your program as a group. A layman always steps warily when advising physicians what to do. It is too abrupt a step for us to assume lightly. We sit so often at the receiving end that it is like preempting Caesar's chair to

* Delivered September 20, 1927, Wayne County Medical Society Meeting.

advise you. But I am interested as a citizen and I am interested as your Governor. Health—Public Health is a matter of prime importance. The Surgeon General of the United States Public Health Service said that "The difference between good government and bad government is measureable by the sickness and death rates." It surely must have been apparent to you physicians where I stood on that platform when I drafted one of your own respected members for the office of Health Commissioner.

However I am not going to launch into a discussion or defense of Michigan's Public Health program. It needs no defense in this audience and any discussion can be conducted better by its able chief. But I have an idea or two that I would like to have you consider as a group—as a society. The group—or Wayne County Society can do effectively certain things which single physicians can only do sporadically.

The first suggestion I have is regarding the children of Michigan. The second refers to medical students and the third to adult laity. These are just a layman's notions.

1—I believe all too little time is spent in our public schools apprising the coming generations of the heroism and supreme self sacrifice and unselfish devotion of you men of science—both in the past and in the present.

A Lindbergh can fly across the sea and his name is on every tongue and his most worthy feat will probably never be forgotten. He doubtless did great good, and his heroic feat may turn out to have led civilization another step forward. But how many of us—old or young among the laity, know the story of the conquest of Yellow Fever or Smallpox—or Diphtheria and those other dread maladies over whom you will be able to stand victor in a short time. Gentlemen—we say all to easily—"Peace hath her victories no less than war," but the heroes of mankind are still too easily recruited from the ranks of Mars. I would have every child know the story of Jenner, Pasteur, Lister, Gorgas and others as they know about Washington, Napoleon, Lincoln or Wellington. This, I understand has been started by your Joint Committee on Public Instruction, and I commend it.

Certainly it is a legitimate and worthy work this your Society can carry on with our education.

My second plea as a layman is to implore you to maintain among your medical students those high ideals of service that have characterized your profession in the past and won it the high position it now holds in our hearts.

Two dangers stand tempting the modern medical student. One is the lure of high fees. Perhaps we laymen have encouraged you in that. The other is the passion for the science of medicine in the abstract.

Whenever a medical student regularly gets so interested in the progress of a case as it develops as to lose sight of the fact that it is a human being in distress, then his place is in the laboratory and not at the bedside. No doubt we need men to delve in the laboratory with test tube and microscope—but even there I do not doubt but that the man who gets the results, who works tirelessly—is the one who sees human beings tossing on beds of pain and pants with eagerness to aid them.

For my last suggestion I fear I am treading on sacred ground. Forgive me if I misstep—for I have only the desire to help you and the public to get closer together. It is difficult for the average layman to understand the difference between ethical and unethical conduct. Of course I am not referring to the extremes where common notices of decency and law would advise a man. I am thinking of that border-line that perhaps troubles you at times—when you wonder what is proper publicity and what forbidden.

As a business man I cannot see why the tremendous weapon of newspaper publicity should be snubbed by you and left as a terrible weapon in the hands of quacks and charlatans. I am not pleading now that you devise some way to use publicity for your own sake. You do not need it. But I ask it for the sake of the public. Perhaps you say that the public should discriminate. But, surely your experience in homes where you see the lack of ability to discriminate in such simple matters as proper eating, will tell you that too much cannot be expected of us laymen in the matter of discriminating intelligence.

So I believe that one of the finest things you members of the Wayne County Medical Society could do would be to make an earnest effort to discover ways of educating the public in how to choose their doctor.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., *Commissioner* • *Edited by* MARJORIE DELAVAN

DIPHTHERIA

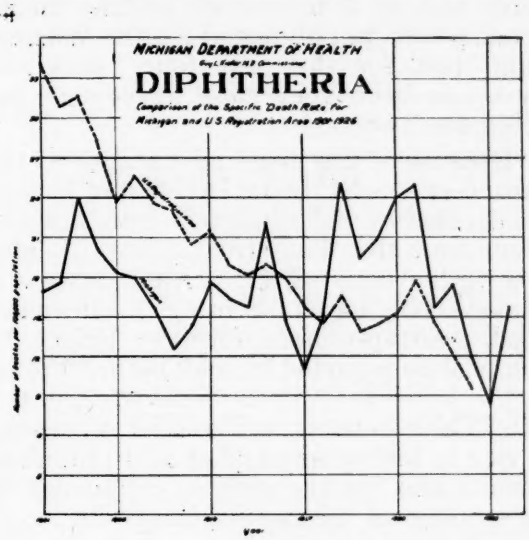
In 1921, Michigan had the highest death rate from diphtheria of any state in the United States, and probably of any country in the world. Since that date the rate has shown a satisfactory decline, reaching the minimum of 8.5 per 100,000 population in 1925.

The year 1926, however, showed a considerable rise, both in the number of cases reported and in the deaths, although relatively the deaths increased much more than the cases. This was probably due to the fact that the fatality rate was higher, —that the disease was more virulent, although we have been unable to demonstrate this by any laboratory procedure. Clinicians generally seem to think it was due to a higher virulence.

In order to understand the comparative value of these figures we have made a comparison of the rate in Michigan for the past twenty-six years with the corresponding period in the registration area of the United States. The last available rate for the registration area was for 1924, so that we are unable to tell whether the rate for 1925 was correspondingly lower as it was in Michigan, and if it showed a corresponding rise in 1926. Many reports from cities which are available for 1926 seem to indicate that the increase was not confined to Michigan.

Below will be found a table giving the rates for the registration area and for Michigan for the period indicated and also an illustration which will enable the reader to visualize just what this means. It will be observed that the trend has been continuously downward in the registration area but that while Michigan has had periods of downward trend, it has also had periods of decided upward trend. In other words, the ratio of decrease has not been as consistent as it has been in the registration area.

It would be unfortunate for anyone to assume that, because of the progress made in the last few years in Michigan, the diphtheria problem has been solved. For 1927, up to and including August 27th, there was a slight increase in the number of cases reported over 1926. While this increase amounted to only about 4 per cent, it is exceedingly serious because it indicates that the figures of last year are not going to be reduced unless some very careful and painstaking effort is made by physicians who must be constantly on the alert and regard every case of sore throat as possible diphtheria until proven otherwise.



DIPHTHERIA RATE

	United States Registration Area	Michigan
1901	34.0	16.8
1902	30.8	17.6
1903	31.7	23.9
1904	28.3	20.0
1905	23.6	18.3
1906	25.7	17.8
1907	23.6	15.6
1908	21.5	12.6
1909	20.4	14.3
1910	21.4	17.6
1911	18.9	16.3
1912	18.2	15.7
1913	18.8	22.0
1914	17.9	16.2
1915	15.7	11.1
1916	14.5	15.0
1917	16.6	25.0
1918	13.9	19.5
1919	14.7	21.1
1920	15.3	24.1
1921	17.7	25.0
1922	14.6	15.8
1923	12.1	17.5
1924	9.4	12.1
1925	.....	8.5
1926	.....	15.8

THE KAHN TEST

An indication of the growing appreciation of the Kahn test came from St. Louis, Missouri, recently, in the form of a letter sent to local physicians by the St. Louis Division of Health.

"You are undoubtedly well aware that about five years ago Dr. R. L. Kahn at the Michigan Department of Health evolved a test for syphilis which began to attract considerable attention among clinicians and laboratory workers. This test, known as the Kahn test, had been perfected during 1923 and since that time has proved itself to be highly specific as a diagnostic agent and in many regards more dependable than the Wassermann. The Kahn test is generally accepted to be more sensitive than the Wassermann in early primary, latent, and in treated syphilis. The Health Division Laboratory has conducted the Kahn test as a matter of routine on all blood specimens submitted for the Wassermann test for the past four years and there has been very close agreement between the two tests.

"Because of the many advantages of the Kahn test, the St. Louis Division of Health has decided to make this test standard and discontinue the Wassermann test. Beginning with August 8, 1927, Kahn tests will be made daily on all incoming specimens of blood. All specimens received before 10 a. m. will be reported by mail before 5 p. m. on the same day. It is believed that the daily Kahn reports will render a needed service to physicians and should stimulate interest and inspire greater confidence in the serological diagnosis of syphilis . . . "

CHILD HYGIENE NOTES

The Michigan Department of Health conducted a conference for children between the ages of one and three years at the Michigan State Fair held in Detroit, September 5 to 10. At this conference children between the ages mentioned were given a complete physical examination by graduate physicians connected with the Department, and were scored according to the standard score card issued by the American Medical Association. Prizes were awarded to the highest scoring babies in the various groups.

It was hoped that the conference would have a decided educational value, since physical defects were pointed out to parents and leaflets were given out on child care.

Beginning September 12, Little Mother's League Classes will be started in Ottawa, Montmorency, Alcona and Iosco counties.

Grand Traverse county will begin a prenatal nursing program under the supervision of the local physicians in September. The program will continue for a period of one year. Sylvia Krejci, a nurse on the staff of the Bureau of Child Hygiene and Public Health Nursing, has been assigned to the work which is similar to that already conducted in Newaygo and Osceola counties and now in progress in Emmett county.

September will also mark the starting of a series of women's classes on prenatal and infant care in Antrim and Kalkaska counties, under Dr. Rhoda Grace Hendrick and Charlotte Ludington of the bureau staff. These classes will continue for a period of about nine weeks.

Breast Feeding Surveys have been carried on in the following counties during the summer:

Chippewa, Charlevoix, Missaukee, Otsego, Schoolcraft, Ontonagon, Mecosta, Mackinac, Alcona and Oscoda.

LABORATORIES ALREADY REGISTERED

The following laboratories have been assigned registration numbers in accordance with the new law requiring that "all laboratories and other places where live pathogenic germs are handled or cultivated shall be registered with the Michigan Department of Health, and a registration number shall be issued to each place registered."

Reg. No.	Location	Name of Laboratory
4.	Ann Arbor	City Laboratory
5.		St. Joseph's Mercy Hospital
6.		University of Michigan Hospital
7.	Battle Creek	American Legion Hospital
8.		Battle Creek College
9.		Battle Creek Sanitarium
10.		City Department of Health
11.		L. Y. Post Montgomery Hospital
12.		U. S. Veterans Bureau, Camp Custer
13.	Bay City	City Department of Health
14.		Mercy Hospital
15.	Detroit	City Department of Health
16.		Detroit Testing Laboratory
17.		Delray Industrial Hospital
18.		Children's Hospital
19.		Digestive Ferments Co.
20.		Frederick Stearns & Co.
21.		Grace Hospital
22.		Henry Ford Hospital
23.		Dr. H. A. Meinke
24.		National Pathological Laboratory
25.		Owen Clinical Laboratory
26.		Physicians Service Laboratory
27		Providence Hospital
28.		Receiving Hospital
29.		Stafford Biological Laboratory
30.		Sherman Laboratory
31.		St. Joseph's Mercy Hospital
32.		St. Mary's Hospital

Reg. No.	Location	Name of Laboratory
33.	East Lansing	Michigan State College
34.	Escanaba	St. Francis Hospital
35.	Flint	City Department of Health
36.		Hurley Hospital
37.	Grand Rapids	Butterworth Hospital
38.		Blodgett Memorial Hospital
39.		Burleson Sanitarium
40.		Brotherhood Laboratory
41.		St. Mary's Clinical Laboratory
42.		Western Michigan Clinical Laboratory (Hills)
2.		Western Michigan Division Laboratory, Mich. Dept. of Health
43.	Ironwood	Grand View Hospital
44.	Highland Park	Highland Park General Hospital
3.	Houghton	Branch Laboratory, Michigan Department of Health
45.	Jackson	Mercy Hospital
46.	Kalamazoo	Borgess Hospital
47.		Department of Health
48.		Kalamazoo State Hospital
1.	Lansing	Laboratory, Michigan Department of Health
49.	Manistee	Mercy Hospital
50.	Mt. Clemens	St. Joseph Hospital X-ray and Clinical Laboratory
51.		Braun Clinical Laboratory
52.	Menominee	St. Joseph's Hospital
53.	Muskegon	Hackley Hospital
54.		Mercy Hospital
55.	Olivet	Olivet College
56.	Pontiac	City Department of Health
57.		Oakland County Department of Health
58.	Port Huron	St. Clair County Laboratory
59.	Saginaw	Central Laboratory
60.	Sault Ste. Marie	Chippewa County Memorial Hospital
61.	Sturgis	Sturgis Memorial Hospital
62.	Traverse City	Traverse City State Hospital
63.	Wyandotte	Wyandotte General Hospital
64.	Ypsilanti	Beyer Memorial Hospital

VISITORS

Varied nationalities were represented by the visitors to the department laboratories during August. Time spent in observing the work ranged from one day to ten weeks, several of the guests having registered in June and July.

Dr. I. H. Fuhs, Clinical Pathologist, Canton, Ohio. (2 days).

Dr. George M. Cameron, Bacteriological Department, University of Tennessee, Knoxville, Tenn. (1 day).

Dr. Everette Atkinson, Commissioner of Health, Pertha, West Australia, (1 day).

Dr. E. Robertson, Chief Health Officer, Victoria, Australia. (1 day).

Dr. Robert Dick, Director of General Public Health, New South Wales, Sidney, Australia. (1 day).

Dr. Val Robinson, Clinical Pathologist, Chicago, Ill. (3 days).

Dr. W. A. Pearson, Dean Hahnemann Medical College, Philadelphia, Pa. (1 day).

Margaret Hicky, Laboratorian, Detroit, Michigan. (1 day).

Dr. L. F. Desannier, Clinical Pathologist, Chicago, Ill. (2 weeks).

Dr. Oscar Vargas, Director Public Health, San Jose, Costa Rica, C. A. (2 weeks).

Margaret L. Low, Provincial Health Laboratory, Halifax, Nova Scotia, Canada. (2 weeks).

Miss J. G. Neversel, Laboratories, Asheville, N. C. (4 days).

Dr. Jesus Jimenez, Institute of Hygiene Alfonso XIII Madrid, Spain. (6 weeks).

Dr. W. M. Pearson, Kirksville Clinical Laboratory, Kirksville, Mo. (1 day).

Dr. Gavro Vujicic, Department of Public Health, Belgrad, Yugoslavia. (3 weeks).

Dr. R. B. Lal, Epidemiological Institute, Punjab, Lahore, India. (6 weeks).

Dr. E. R. Miller, Health Department Laboratories, Cleveland, Ohio. (3 days).

Dr. Xavier Hernandez, Nation Department of Public Health, Mexico City, Mexico. (6 weeks).

Dr. K. V. Krishnan, King Institute, Madras, India. (3 weeks).

Harriet Bixby, Assistant Director of Laboratories, Department of Health, Connecticut. (2 weeks).

Dr. Joseph Chandler, Hahnemann Medical College, Philadelphia, Pa. (3 days).

Dr. M. B. Kurtz, Michigan State College, East Lansing. (6 weeks).

Jean Bradford, Laboratorian, Lansing. (10 weeks).

Miss S. R. Mershon, Laboratorian, Louistown, Montana. (10 weeks).

Dr. Victor G. Heiser, Rockefeller Foundation, New York City. (1 day).

Dr. Rolland J. Brown, University of Michigan, Ann Arbor. (1 day).

Dr. Philip R. Johnson, University of Michigan, Ann Arbor. (1 day).

Dr. Helen C. Hirshland, Clinical Pathologist, Reading, Pa. (3 days).

VISITS OF ENGINEERS DURING AUGUST

Inspections and Conferences, Sewerage and Sewage Disposal: 25 cities.

Ann Arbor
Augusta
Bad Ave
Bay View
Cadillac
Caro
E. Grand Rapids (3)
East Lansing (6)
Elk Rapids (2)
Elsie
Escanaba
Fordson
Greenville
Higgins Lake
Howell
Island Lake
Jackson
Lansing (2)
Lapeer
Middleton
Niles
North Branch
Ottawa Beach
South Lyon
Ypsilanti

Inspections and Conferences, Water Supplies: 33 cities.

Alpena
Anchor Bay
Bangor
Bay City (3)
Benton Harbor (2)
Birmingham (2)
Cadillac (7)
Capac
Charlevoix
Decatur
Dexter
East Grand Rapids
Farmington
Flint
Greenville (2)
Lansing
Mackinaw City (2)
Manistique (2)
Middleton
Midland
North Park
Oxbow Lake
Petoskey (2)
Rockford (2)
Romeo
Saginaw
Saugatuck
Saranac
South Haven (7)
St. Joseph
St. Ignace (2)
Whitehall
Ypsilanti

Inspections and Consultation on Swimming Pools: 3 cities.

Detroit
Hudsonville
Ypsilanti

Inspections and Consultations, Stream Pollution: 6 cities.

Alpena (4)
Elk Rapids
Holland
Kegomic
Kent City
Owosso

Inspections of Camps:

Charlevoix, Sanitation.

Jeddo, Y. W. C. A. Camp, Water Supply.

Trilby, Toledo Public Health Association, Sewage Disposal.

Inspections and Conferences at Institutions:

Detroit, State Fair Grounds, Sewers (6).

Eloise, Wayne Co. Home, Sewage Disposal.

Grayling, Nat'l Guard Camp, Sewage Disposal.

Hillsdale College, Sewage Disposal.

Northville, Wayne Co. Training Sc., Sewers (3).

Northville, Wayne Co. Training Sc., Water (2).

Information and Conferences, Miscellaneous:

Belding, Garbage Disposal.

Lansing, Garbage Disposal.

Lansing, Nuisance.

Lansing, Water Softening.

Roadside Water Survey:

Trunk lines covered collecting samples, 1486 miles.

Samples collected, 71.

Trunk lines covered posting samples, 1487 miles.

Municipal water supplies posted, 24.

School wells tested, 15.

Gas station and garage wells, 5.

Tourist camp wells tested, 7.

PREVALENCE OF DISEASE

August Report

Cases Reported

	July 1927	August 1927	August 1926	Av. 5 Years
Pneumonia	171	122	114	114
Tuberculosis	489	447	462	473
Typhoid Fever	51	88	75	98
Diphtheria	255	212	326	306
Whooping Cough	661	674	625	646
Scarlet Fever	436	298	273	330
Measles	397	103	231	192
Smallpox	95	59	40	44
Meningitis	13	3	9	7
Poliomyelitis	6	31	13	23
Syphilis	1,346	1,424	1,201	948
Gonorrhea	750	940	797	853
Chancroid	4	13	5	12

CONDENSED MONTHLY REPORT

Lansing Laboratory, Michigan Department of Health

August, 1927

	+	—	+—	Total
Throat Swabs for Diphtheria				643
Diagnosis	42	248		
Release	35	126		
Carrier	2	184		
Virulence	5	1		
Throat Swabs for Hemolytic Streptococci				399
Diagnosis	46	167		
Carrier	9	177		
Throat Swabs for Vincent's	23	268		291
Syphilis				6065
Wassermann		1		
Kahn	1028	5000	33	
Darkfield	1	2		
Examination for Gonococci	164	1601		1765
B. Tuberculosis				357
Sputum	79	259		
Animal Inoculation		19		
Typhoid				578
Feces	27	186		
Blood Cultures	18	143		
Urine	1	84		
Widal	29	90		
Dysentery				182
Intestinal Parasites				15
Transudates and Exudates				128
Blood Examinations (not classified)				223
Urine Examinations (not classified)				351
Water and Sewage Examinations				951
Milk Examinations				103
Toxicological Examinations				8
Autogenous Vaccine				5
Supplementary Examinations				299
Unclassified Examinations				718
Total for the Month				13081
Cumulative Total (fiscal year)				25186
Decrease over this month last year				847
Outfits Mailed Out				16994
Media Manufactured, c. c. (special)				175788.3
Typhoid Vaccine Distributed, c. c.				16539
Antitoxin Distributed, units				17621000
Toxin Antitoxin Distributed, c. c.				16130
Silver Nitrate Ampules Distributed				2808
Examinations Made by the Houghton Laboratory				1341
Examinations Made by the Grand Rapids Laboratory				4128

EDITORIAL DEPARTMENT

EDITOR: Frederick C. Warnshuis, M. D., F. A. C. S.

ADDRESS ALL COMMUNICATIONS TO THE EDITOR—1508 G. R. NAT'L BANK BLDG., GRAND RAPIDS, MICH.

UNIVERSITY POST-GRADUATE SCHOOL

We are very pleased to publish the following statement which is an official announcement of the Regents of the University, authorizing the establishment of a Post-Graduate Medical Department of the University:

Dear Doctor Warnshuis:

I have your request for a statement of the recent action of the Board of Regents relative to the establishment of a Department of Post-Graduate Medicine in The Medical School at the University, and also for a general outline of the proposed plan of operation.

You will recall that late in the fall of 1925 the president of the State Society and the chairman of the Council were authorized to invite representatives of the Detroit College of Medicine, The Medical School of the University, The State Board of Registration in Medicine, the State Board of Health and the Division of Public Health and Hygiene to meet with the Council to consider the development of Post-Graduate in Michigan.

The District Clinical Conference inaugurated by the State Medical Society had been in operation for a considerable period and had proven very successful and the demand for further opportunities for Post-Graduate study seemed to warrant serious consideration by those concerned with medical education as well as those responsible for the care of the sick and the administration of Public Health.

There was a very free and full discussion at this joint meeting and a committee of three appointed to study the question and report back at the next annual meeting of the Council at which time the same group would be assembled. The committee consisted of Dr. Donald representing the Detroit College of Medicine, Dr. Camp the University Medical School and I was asked to represent the State Medical Society.

After a years study of the problem the committee confirmed the opinion of the Council as to the demand on the part of the profession and of the need of such opportunities if adequate service to the public was to be maintained.

The committee felt that many avenues of activity might be developed in the prosecution of the work and that helpful contributions might be looked for from many different agencies. The need for follow up work on the part of Medical Schools was emphasized and the obligation of the tax supported Medical School of the University was especially stressed.

The committee recommended that a division or department of Post-Graduate Medicine be established in the university. In making this recommendation it was not contemplated by the committee that all or even a major part of Post-Graduate activities would be done in Ann Arbor but did believe that Ann Arbor by reason of its diversified educational facilities and mechanical equipment offered what seemed needed most at this time—an established base from which to operate and assist in the co-ordination of the many agencies so necessary to the successful development of this important enterprise.

After a full and free discussion which was opened by President Little and participated in by practically everyone present a resolution was passed accepting the recommendation of the committee. This report with the recommendation of Dean Cabot was put forward by President Little at the June meeting of the Board of Regents who authorized the establishment of a Department of Post-Graduate Medicine, set aside a small budget for the coming year and asked me to undertake the organization. When you recall that this development is in response to recommendations from the State Medical Society together with practically all of the other organizations in Michigan having to do with Medical education and the care of the sick, you will I believe share my view—That each should have an opportunity to meet and advise with those immediately responsible for its development. The reasons back of this development have to do with the highest ideals of service and men whose opinions are entitled to respect believe it the most worth while obligation recognized by the university in many years.

Since the authorization of this work by the Board of Regents time has not permitted the getting together of the various groups interested so I'm sure you will agree with me that further discussion as to plans and policies would be unwise at this time. However, I have every reason to believe that we will begin with the general plan outlined in the recommendation of the committee which you published in the Journal of February or March.

The development of this work and its ultimate value is dependent not only in the administration but in even greater measure on the degree to which its opportunities are utilized, and on the support and co-operation of a limited profession.

For November 18 and 19 we plan clinics with the Minnesota Game, which is always good, on the afternoon of the 19th at this time I am hoping that we may be able to discuss this subject more intimately.

Cordially yours,

JAMES D. BRUCE.

THE RANDALL BANQUET

Visitors to the Genesee County Medical Society continually remark upon the friendly spirit that characterizes this organization. Never was this more splendidly demonstrated than on Wednesday evening,

September 7, when about 200 doctors and eminent laymen assembled in the Hotel Durant ballroom to compliment Dr. H. E. Randall, President of the State Medical Society. This banquet was one of those delightful affairs that are not soon forgotten. The feast, the decorations, the music, the speeches, the contagiously jovial spirit —all were satisfying.

Dr. Marshall called the assemblage to order and conveyed the greetings of the society to our guests. Several congratulatory telegrams were read, after which he introduced the toastmaster Dr. C. B. Burr. In his own inimitable manner, the venerable ex-president conducted the program graciously and skillfully, keeping the company in a jovial mood at all times by his wit and apt remarks. Dr. Burr, in introducing Dr. Louis J. Hirschman, of Detroit, said he knew "piles" about Louis. Dr. Hirschman, a most skillful raconteur, kept the audience in good humor as he told many tales of Dr. Randall's student days. Dr. W. J. Kay, of Lapeer, for six years an associate of Dr. Randall, responded eloquently to the toast: "The Country Doctor." The specialist is made in the schools but the training of the country doctor is a matter of growth. He must be a life-long student, a resourceful worker, and a good fellow with broad sympathies.

Dr. Angus McLean of Detroit spoke on "The Surgeon." He briefly outlined the progress of surgery in the last 30 years. General McLean was never more eloquent than when he pleaded with us to maintain the traditional humanitarianism of the profession. Let the surgeon "live by the side of the road, and be a friend of man" and he would prove to the cynic that "life was not an empty dream."

Dr. B. R. Corbus of Grand Rapids, speaking for the State Medical Society paid a fitting tribute to the work of Dr. Randall on the Council, where his idealism and rich experience contributed in no small way to the manifold accomplishments of the society.

Dr. G. Kiefer of Lansing, liked Flint for its good fellowship, its Buicks, and its Randall. He made an earnest plea for every doctor to be a practitioner of preventive as well as of curative medicine.

Col. James Parker, Judge of Circuit Court, responded to the toast "The Soldier." He paid an eloquent tribute to the honesty of the Genesee profession in court matters. He pictured President Randall as a typical American-born of the soil—educated in our own institutions—and fervently devoted to his country and her causes. Such as he have made America what it is.

Dr. Manwaring of Flint, in responding to the sentiment "The Colleague," recounted Randall's accomplishments as a surgeon. He eulogized his gift of pouring oil on troubled waters, his helpfullness to doctors who needed support, his honesty, his modesty, and his gift for organizing.

Dr. J. H. Dempster of Detroit, responded to the toast "The Ladies." He is an enthusiastic medical historian and made a plea for the co-operation of the profession with the editors forthcoming medical history of Michigan.

Congressman Crampton of Lapeer, speaking for the mere patient, recounted many humorous incidents of Randall's life in Lapeer. He made the observation that our president's success was not due to carefully planned aspirations, but was due to the fact that he did each day's duty well. When Lapeer folks speak of "Old Doc Randall" it was an expression of endearment.

President Randall responded appropriately and thanked the profession for their favors. He said that his only claim to eminence was that he was the only Michigan surgeon of thirty years standing who had not done a Nephropexy. Flattery would not hurt him, "for it was like moonshine—it only hurts you when you swallow it."

Dr. Randall's work for the profession will not end with his presidential year. His wise and kindly counsel will be sought for years to come. We feel that it will be for a great many years, for Randall, loving life in its fullness, loving humanity with its frailties, loving his profession devotedly, has developed that remarkable "Acquanimitas" which keeps men young.

W. H. M.

OVER SPECIALIZATION

During a recent visit of a travel club composed of British surgeons, one of the British visitors, by request, imparted the following observation: "That the surgical profession of America was over-specialized. That he had noted in some of the Clinics visited that one man, day after day, was doing nothing but thyroidectomies in a manner just as a mechanic tightened nut 211 during the construction of a flivver. Other men were doing the same thing in the other surgical specialties. This over specialization and narrow-

ing of ones operative field was deplored." That in substance was the opinion voiced.

In a measure our British friend is right—the observation made, however, is not typical of American surgeons. It is encountered only in certain of our larger clinics. The surgeons as a whole should not be appraised by the policies and practices exemplified in possibly a half dozen clinics. On the contrary the large majority of our surgeons do not so limit their operative field, they are possessed of wider diversified surgical ability and embrace a wider range of surgical conditions.

The comment, however, provides food for thought. We admit an increasing tendency to specialization and limitation of work. It can be over done. Our schools and clinics should not be unmindful of this trend. They should prevent such a tendency. We want more, well trained general surgeons and fewer specialists.

MONTHLY COMMENTS

Medical—Economic—Social

Every member is entitled to a copy of the Manual for the Conduct of Periodic Examinations of Apparently Healthy Persons, prepared by the A. M. A. We have endeavored to distribute these through county officers. We have a small supply on hand. If you failed to secure your copy, write us.

On September 15 the following County Societies constituted our honor roll of 100 per cent paid membership for 1927. We are eager to increase the names on this roll and urge county secretaries to make an effort to collect the dues of delinquent members.

County Societies—Memberships all paid: Calhoun, Clinton, Gogebic, Grand Traverse, Huron, Kalamazoo, Lenawee, Manistee, Mecosta, Muskegon, Oceana, Newaygo, Omcoro, Schoolcraft, Shiawassee, Midland and Luce.

"This demonstration has demonstrated that whenever lay bodies attempt to interfere with and guide officials health work, the result is inefficiency and chaos." This is the conclusion of the Cattaraugus County, New York, Medical Society following a four and a half years observation of the Milbank Health Demonstration. We impart this conclusion for the information and guidance of our members and county units when dealing with lay controlled clinics and lay sponsored health movements. It must be apparent that without competent medical direction and guiding support of the profession all such lay attempts will result in failure and be valueless to the community.

On September 1, the Genesee County Medical Society issued Volume one, Number one of an eight page semi-monthly Bulletin. Dr. W. H. Marshall has been appointed to the editorship. It can be confidently predicted that under his editorship the Bulletin will materially enhance the activities of the society and create a greater solidarity of the Genesee profession. Genesee Society has always stood in the fore-rank of organized activity achieving very creditably the ideals of organization. We congratulate the Society on its Bulletin and feel assured we will unite with the Genesee profession in profiting from reading each issue.

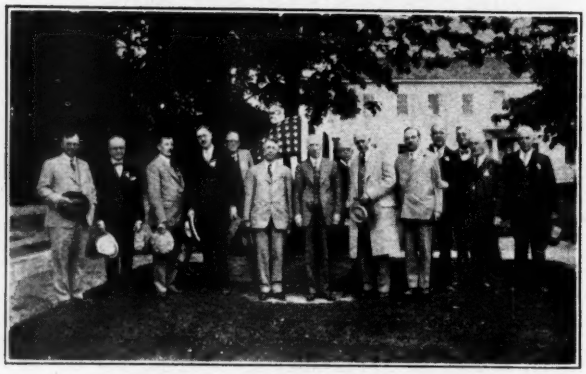
The following County Societies issue printed Bulletins at regular intervals: Wayne, Kent, Kalamazoo, Calhoun and Genesee. Dr. E. G. Martin, who has edited the Wayne County Bulletin for the past two years relinquished his editorial duties on September 1. During his editorship Dr. Martin has awakened a wide interest in the Bulletin. He was fearless in merciless publicity of radicals, quacks and self-seekers, he roasted the profession fearlessly when it needed it but fought for it always. During his tenure of office, Dr. Martin, materially enhanced the profession's interest. Dr. Reveno assumes his duties as the new editor of the Wayne Bulletin.

We recognize that only the larger County Societies can afford to publish a Bulletin. We venture to suggest that Bay, Saginaw, Ingham, Jackson, Oakland and Washtenaw Counties give consideration to the establishment of a Bulletin. The advertising receipts will defray the printing and mailing expense. A Bulletin will accord the opportunity of conveying to local members at regular intervals items of interest, committee work and news notes in addition to announcing the program. It is really a "house-organ" capable of stimulating interest and support. Every County Society that can should regularly issue a Bulletin.

"Died During the Night", "Found Dead In Bed"—All too frequently do these headlines greet one as he reads the morning paper. Is there a more convincing argument for regular, periodic examination of the apparently well. We are quite convinced that these reports of suddenly terminated lives would have been postponed to a considerably distant future had these deceased individuals secured the benefits of periodic physical examinations. Less you choose to have such an announcement appear for you, possibly tomorrow, we urge anew that you obtain today a thorough physical examination. Secure a personal audit—and be guided by the findings so as to forestall being found dead tomorrow.

We have quite frequently noted that there is a marked tendency on the part of doctors to direct their treatment to the Wassermann reaction and not to the patient and his symptoms. Treatment should be directed to the patient after a very careful and detailed examination of physical findings with special attention directed to the neural

system. A four plus reaction can be treated for years and still the blood will evidence the same four plus. The patient will present no clinical symptoms, continuance of treatment is futile for it is almost a certainty that a negative response will never be attained. Examine such patients carefully, have them report regularly for re-examinations and administer treatment only when findings and symptoms demand treatment. We repeat: do not treat blood reports; treat the patient's symptoms.



The above picture taken by Dr. Henry Cook of Flint is published for record. It was taken on Mackinac Island at the time of the re-dedication of the Beaumont monument. In the center are President-elect Randall, Ex-President Biddle, President J. B. Jackson and Dr. B. R. Corbus. Others are: Carl Moll, J. D. Brook, A. M. Hume, W. J. O'Reilly, L. J. Hirschman and Henry Cook.

Physical Culture magazine is now out to get the good will of the medical profession. After years of mud slinging and scathing denunciation of doctors through the columns of this lurid magazine McFadden has reached the point in his career where he finds it unprofitable to have the practical men of medical science against him. He has expressed a creed or code which he wants each doctor to subscribe to by signing a self-addressed post card.

We would suggest that he first convert his publishing facilities into a medium for health education based upon the discoveries and deductions of such men as Koch, Pasteur, Lister, Jenner, Carrell, Osler and others, and when the influence of this has raised the confidence of the people in the high standards of scientific medical progress there will be no need of self addressed post cards to carry back the good will of a waiting medical profession.—H. B. K.

Judge Elbert H. Gary, late chairman of the board of directors of the United States Steel Corporation, included in his will recently filed for probate in Nassau County, New York, the following sound advice to the beneficiaries:

"I earnestly request my wife and my children and descendants that they steadfastly decline to sign any bonds or obligations of any kind as surety for any other person or persons; that they refrain from anticipating their income in any respect; that they refuse to make any loans except on the basis of first-class, well-known securities and that they invariably decline to invest in any untried or doubtful securities or property or enterprise or business.

"They should reject any representations or opinions of others if involved in any doubt. They will be approached frequently with suggestions for investment that are not entitled to be relied upon from a business standpoint."

Unless one is thoroughly familiar with the principles of investment banking and their application, the investor must rely, in the last analysis, upon the integrity and judgment of the bond house.

The Council on Medical Education and Hospitals of the A. M. A. has made the following requirements imperative before a hospital will be listed as recommended for internship:

1. Only general hospitals are eligible where a variety of medical, surgical, obstetrical and pediatric cases are treated.
2. The staff must be proficient in general practice or the specialties and must be willing to provide instruction to the interns.
3. The hospital must have a competent pathologist and radiologist who in addition to routine duties can render instruction to the interns.
4. A new stipulation provides that necropsies must be obtained in 10 per cent of hospital deaths in the year 1928 and 15 per cent after January 1, 1929.
5. Interns must have opportunities for instruction in the giving of general and local anesthesia, in laboratory technic on patients on their services, in the performance of necropsies under supervision.
6. Hospital records shall include history, physical and laboratory examinations, preoperative and postoperative diagnoses and the much neglected progress notes; and the records shall be in charge of a trained secretary.
7. Provision should be made for a hospital library for intern use containing at least ten medical journals.
8. Interns shall be recruited from class A or B medical schools.
9. Provision should be made for physical recreation and working hours limited to eight or at most ten hours a day for the period of twelve months.
10. There shall be a printed set of rules governing the interns.

In short the training afforded shall be the best obtainable in preparation for general practice.

That the medical profession itself is in part responsible for the growth of quackery and of anti-medical cults in the United States was asserted by Dr. Donald B. Armstrong of the Metropolitan Life Insurance company in speaking here today before the Michigan Conference of Social Work. Dr. Armstrong based his statements upon the thousands of letters received by insurance companies and other national agencies from people all over the country seeking health advise and medical guidance.

"From this experience," stated Dr. Armstrong, "it is clear that the public wants protection against quackery and fraud. Many who write for advice suspect that the advertised cures are fakes, but don't know where to turn for safe and sound medical advise and treatment.

"One person writes: 'My wife and I have almost made up our minds to try an advertised cure for diabetes. Yet we are hesitating and decided that you might possibly give us what knowledge you have of the —— treatment for diabetes.'

"A sufferer from cancer writes: 'Am I waist-

ing valuable time in trying to purge myself through the blood?'

"Many of these people are new in their communities. They do not feel certain that they know the difference between a regular doctor and a so-called 'doctor' of one of the many flourishing varities of quackery. They may want a specialist, or think they want one and do not know how to secure one. At present, in most communities, there is no responsibility agency to which they may turn. Hence the flood of more or less futile inquiries to national offices."

Dr. Armstrong pointed out that the people throughout the country not only want to be protected against quackery, but they are willing to accept and actively desire direction to safe and helpful medical and health services and facilities. In seeking reliable services, however, many go wrong and get into blind alleys, through lack of guidance. They are so often fooled by quackery in the guise of medicine that they frequently lose faith in the medical profession as a whole.

"To an increasing extent also," Dr. Armstrong added, "the people want positive health guidance. Health Departments and other agencies have told them to see the doctor regularly in order that he may help them keep well. They have been told to go to the doctor for a thorough medical and health examination once a year. They want advice as to how to live and how to prevent disease. Now, the doctor has been primarily trained to treat the sick and he has hitherto not been very much interested in well people. Consequently an increasing number of people who are seeking advice from physicians are going away from the doctor's office disappointed because the doctor is not yet prepared to give the kind of service that is being sought. Many doctors, instead of giving a thorough medical examination for which most people are prepared to pay a reasonable fee, are inclined to slap the patient on the back, tell him he is O. K., and not to worry. That's 'old stuff' and won't go much longer. It's another reason why many of these people turn to so-called medical institutes run on a fake advertising basis."

In summarizing the situation Dr. Armstrong pointed out that the medical profession was in part responsible for the development of quackery, first, because its members were not yet ready to meet the increasing demand for personal health service. This situation could be remedied only by teaching more preventive medicine in the medical schools, the development of post-graduate education for doctors, carried out through county medical societies, etc. Furthermore, there existed at the present time, practically no machinery in local communities for giving medical guidance to those in need of it. To the thousands of letters which these people write to national agencies every year, the only reasonable answer is "See your doctor". But they haven't any particular doctor and don't know how to get a real one. The Health Department and social agencies can help some of these people. However, many of them want to know where to get a thorough medical examination, how and when to take insulin for diabetes, what is a good diet for Bright's disease, how to find a reliable physician, where to get a skin or other specialists, etc.

Dr. Armstrong expressed the belief that to meet these needs there must be established in most communities, a Medical Guidance Bureau where its citizens could secure the help needed. If such a bureau were to be run under unprejudiced medical auspices, with the co-operation of the Health Department and social agencies, and were to be properly advertised in the community, it would perform a most valuable service. It would combat the development of quack medicine; it would direct individuals to sound medical service; it would stimulate doctors to meet the demands for health advice on the part of the people; it would increase the work of the medical profession, and would open up to that profession, the great and growing field of private practice of preventive medicine.

DEATHS

Dr. Alfred E. Lemon of Sault Ste Marie was found dead in his office on August 15. Death was due to apoplexy. Dr. Lemon was 56 years old and came to the Sault from Canada about 35 years ago. He was one of the best known physicians in Chippewa County and for several years was coroner of the county. He also had a long war record. Dr. Lemon is survived by one daughter and his parents who live in Toronto.

Dr. James Crawford, who for 19 years practiced medicine in Sunfield, but in 1926 moved to Ypsilanti, died September 8 at his home 112 Perrin street. He was 64 years old. He graduated from Ontario College of Medicine and practiced 14 years in Detroit, Niagara two years and Sunfield 19 years.

Dr. Eugene Smith, Detroit's oldest practicing physician, died September 12 at his home 109 Taylor avenue. He was 82 years old. Dr. Smith was born in Albany and was graduated from the University of Buffalo and spent several years in study in Europe. He founded the eye, ear, nose and throat section of the American Medical Association and was a fellow of the American College of Surgeons. He was a member of the faculty of the Detroit College of Medicine for 30 years and held the chair of professor of Laryngology at his death. In 1926 Dr. Smith was elected an Honorary Member of the Wayne County Medical Society and the Michigan State Medical Society. He is survived by his wife, a son, Dr. Eugene Smith, Jr. and a daughter, Karolyn Smith Crookston of Birmingham.

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Oxford, Mich.

Editor of The Journal:

I am in receipt of the Text-book by Dr. Aaron, which you sent me as a prize in the contest. I thank you very heartily for the gift, and prize it very much. It covers a subject in which I am much interested, and always have been. This book being the very last word on the subject, makes it of great value, and I expect to gain much useful knowledge on a subject important to every physician.

Yours very truly,

Aileen B. Corbit, M. D.

NATIONAL CRIME REVIEW

Tecumseh, Mich.

Editor of The Journal:

I have recently been visited by Miss Evelyn Barrett Nora-Gon. She had quite a story to tell and a great many letters from County Society officers all over the southern part of the state, telling her that they thought she was doing a great work in exposing the various cults. The ultimate end of her visit was to obtain subscriptions to a magazine called "The National Crime Review".

Who and what is she? I would like to see what would happen if she called on a neurologist.

Yours truly,

R. G. B. Marsh, M. D.

WAYNE INVITES YOU

Program

Wayne County Medical Society October, 1927

October 4—General Meeting—Orchestra Hall, 8:00 p. m. Invitation American College of Surgeons.

October 11—Medical Section—8:30 p. m. "Pathological Clinical Conference on Diseases of the Liver." Plinn F. Morse, M. D.

October 18—General Meeting—8:30 p. m. Symposium on Sanitation of Detroit River. Hon. John W. Smith, Mayor, City of Detroit; Hon. John Reid, Commissioner of Public Works; Mr. Perry Fellows, City Engineer; Wm. C. Hoad, Professor of Sanitary Engineering, University of Michigan.
(City Council invited to be present.)

October 25 — Surgical Section — "Confirmatory Evidence for Radical Excision and Surgical Treatment of Chronic Ulcers of the Stomach and Duodenum." Wm. J. Cassidy, M. D.

F. M. Meader, M. D.,

Chairman Program Committee.

The Wayne County Medical Society wishes to extend a cordial invitation through the columns of the State Journal to the various County Societies of Michigan, Ohio and Western Ontario to attend the scientific meetings which are held weekly in the Wayne County Medical Society auditorium, 1124 Maccabee building.

William P. Woodworth, Secretary.

MY VACATION

In company with my son, I left home on June 24th by automobile to New York City and Brooklyn, where we had an apartment.

After an enjoyable three weeks in the metropolis, I started to Boston, going by boat to Providence. Leaving the pier at Christopher street and going down the North river, one has a sky-line view of Lower Manhattan which can hardly be excelled. Winding around the Battery and up the East river, one gets a view of the Old Castle Garden and Battery Park on the left; Jersey City and Hoboken, Statue of Liberty, Governor's Island, Brooklyn navy yard, and Long Island City water front, on the right. The bridges that we pass under need to be mentioned: Brooklyn bridge, Manhattan bridge, Williamsburg bridge, all suspension, and all 135 feet above water. The Queensboro bridge is a cantilever bridge and is the same distance above water. Farther on, is the most wonderful bridge of all, the Hell Gate bridge, which, with the approaches, has a total length of three and one-half miles, and cost $27,000,000. It is also 135 feet above water.

The trip through Long Island Sound was made after dark, and the lights along shore were very pretty. We reached Providence after daybreak. From Revolutionary times, Providence has been an important industrial center. During the last few years the city has undergone a remarkable growth as a commercial port. It is now the largest North Atlantic distributing point for oil products. Vast storage tanks are to be seen along the shore of the river.

I made the trip from Providence to Boston by rail, and reached the South Station in a deluge of rain.

Boston is the natural starting point for grasping the loveliness of New England. The old Bean Town presents innumerable fascinations on personal acquaintance. You can go anywhere in the city proper and in two minutes stir up a historic gem.

That first afternoon, going over the Cambridge bridge, which is the successor to the old "bridge with the wooden piers", I visited Cambridge, a city of 115,000. I saw the site of the Washington Elm under which General Washington took command of the American army. I saw the site of the First church and parish in Cambridge where Thomas Hooker was pastor in 1633. It is said that "no existing building in Massachusetts can compare with it in the number of distinguished men who at different times have been assembled within its walls."

Cambridge contains many historic residences. Lowell says "there is no place like it, no, not even for taxes." The Longfellow House, probably built in 1735, was long the headquarters of Gen. George Washington, and became the home of

Longfellow in 1837. The home of Dr. Richard Cabot is next door to it. The President's house, facing Quincy street, is next to Emerson Hall. The birthplace of Oliver Wendell Holmes is now owned by Harvard college. "Elmwood", the home of James Russell Lowell, stands among beautiful trees on Elmwood avenue. I also saw the home of the "Village Blacksmith." An old colonial house, painted yellow, stands on the corner of the campus near Harvard Square, and was used by General Washington as headquarters when he came to take command of the army, July 3, 1775. It is called the Wadsworth House, and is now used as an administration building of the college. Harvard was founded in 1636, and is the oldest college in the United States. It has long since outgrown the "Yard", and even Cambridge. It really belongs now as much to Boston as to Cambridge, for the medical school, the finest in the world, the big athletic field and stadium, the Arnold Arboretum and Bussey Institution are within the limits of Boston.

I went to Lexington over the same route that was covered by Paul Revere on the night of April 18, 1775. Christ Church on Salem street is the oldest church edifice now standing in Boston, built in 1723. It was in the tower of this church that the signal lanterns of Paul Revere were hung that night. His home from which he started is not far from this church.

The Lexington Common is a triangular piece of ground containing about two acres. At a point about midway between Lexington and Concord is a large tablet showing the spot where Paul Revere's ride ended. Farther on is the Grape-Vine Cottage, the home of the parent vine of the Concord grape. "Old Wayside", the home of Hawthorne, and the Orchard House home of the Alcotts, are a short distance east of Concord. The "Old Manse" built by the Rev. William Emerson in 1775, stands a short distance from the North bridge. At one end of this bridge is the statue of the Minute-Man by French, and at the opposite end is the monument to the British soldiers.

One day I spent at Marblehead and Salem. Marblehead is situated on a rocky headland extending out into the ocean; in no other town in America will you see so many quaint houses, such wandering, narrow, irregular streets, so many historic landmarks.

In Salem I saw the Custom House where Hawthorne was surveyor of the port; the House of Seven Gables; the old Witch House where Roger Williams once lived, and the oldest house in Salem. I saw Gallows Hills, where eight persons were hung for witchcraft in 1692. Salem is an attractive city with beautiful streets and handsome public buildings; on Chestnut street are the finest colonial doorways in New England.

I went to Provincetown by boat. The wharf from which one starts is located where the wharf was when the British troops landed in Boston in 1768. The principal point of interest in Provincetown is the monument which is very beautiful, and from which one gets a superb view.

One day I went to Plymouth, leaving from the wharf which is very near the location where the famous Boston Tea Party occurred. The points of chief interest in Plymouth are the Rock with its canopy and railing, Pilgrim Hall, Burial Hill cemetery, containing the graves of Governor Bradford, John Howland and many other Pilgrims.

I visited Dorchester Heights, where a fine view of Boston Harbor can be seen. On these heights were built the American redoubts which compelled the evacuation of Boston by the British army.

Other famous places I saw in Boston were the Old State House, the Old South Meeting-House, Faneuil Hall, the Granary Burying Ground, Copps Hill Burying Ground, and several others. Boston Common and the State House on Beacon Hill, the Massachusetts general hospital, and the Arnold Arboretum are all points of great interest. At Sudbury I visited the Wayside Inn, which is now the property of Henry Ford.

In Charleston I visited the navy yard and saw the old frigate, "Constitution"; also saw the Bunker Hill battle ground and monument.

At Quincy I saw the Dorothy Q House, the site of the John Hancock Meeting-House, the birthplaces of Presidents John and John Quincy Adams; also the first Parish Church which contains the crypts where the remains of these two ex-presidents are interred.

I left Boston on August 2, feeling that it was a season well spent. The impressions it gives one, seeing the spots where our history was made, so many things connected with our forefathers and their struggle for independence, and the difficulties they fought. Certainly we are impressed with their greatness.

A. B. Corbit, M. D.,
Oxford, Michigan.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Dr. William J. Stapleton, Jr., of Detroit has returned from an extended summer tour through Europe.

Dr. R. C. Stone, Battle Creek, has recovered from a repair of a ventral hernia. He resumed practice on October 1.

Dr. C. M. Ryno of St. Joseph has recovered from an illness that has incapacitated him for several months.

Dr. S. R. Light of Kalamazoo has been reappointed as a trustee of the State Psychopathic hospital.

Dr. E. C. Taylor of Jackson has removed to Florida and relinquished practice.

Dr. H. H. Hammel, Tecumseh, president of the Lenawee County Medical Society, left, September 15, for a six weeks pack train trip in the Canadian Rockies, to hunt mountain goat, caribou, moose and bear.

BOOK REVIEWS AND MISCELLANY

Offering Suggestions and Recommendations

MANUAL OF THE DISEASES OF THE EYE—Charles H. May, M. D.—12th Edition. 374 illustrations. William Wood & Co., New York. Price $4.00.

This is a concise, practical and systematic manual. Revised to date in this new edition. It imparts enough but not too much. Physicians will find it a splendid reference assistant.

THE MEDICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month.) Volume 11, Number 1, (Chicago Number—July, 1927.) Octavo of 294 pages with 26 illustrations. Per clinic year (July 1927 to May, 1928.) Paper, $12; Cloth, $16 net. W. B. Saunders Company, Philadelphia and London.

THE SURGICAL CLINICS OF NORTH AMERICA—(Issued serially, one number every other month.) Volume 7, Number 3, (Chicago Number—June, 1927.) 330 pages with 81 illustrations. Per clinic year (February 1927 to December 1927.) Paper, $12; Cloth, $16 net. W. B. Saunders Company, Philadelphia and London.

DISEASES OF THE STOMACH—Diagnosis and Treatment of Diseases of the Stomach, with an introduction to Practical Gastro-Enterology. By Martin E. Rehfuss, M. D., Assistant Professor of Medicine at Jefferson Medical College. Octavo volume of 1236 pages with 519 illustrations, some in colors. Cloth, $12. W. B. Saunders Company, 1927, Philadelphia and London.

The author is well known. The achievements that have classified him as an authority are reflected in this text. Excellent in detail, accurate in every respect, clear in description and well illustrated are all outstanding features of this text. It is comprehensive in scope and specific in conclusions. This text at once assumes a prominent slace in our gastric literacture.

THE ANATOMY OF THE NERVOUS SYSTEM—(Third Edition)—From the standpoint of development and function. By Stephen W. Ranson, M. M., Ph. D., Professor of Neuroanatomy, Washington University, Medical School, St. Louis, Mo. Third Edition, Revised. Octavo volume of 425 pages with 284 illustrations, some of them in colors. Cloth, $6.50 net. W. B. Saunders Company, Philadelphia and London.

This is an excellent text and accords material assistance to the student as well as he who devotes his entire time to neurology.

PERNICIOUS CHIROPRACTIC SCHOOLS

A chiropractic institution in Chicago bearing the pretentious title of "The American University" has for a number of years quietly carried on, mainly by correspondence, a business of supplying chiropractic degrees to would be "doctors," the chief, if not the only, requirement being the purchase price. Statements published in the literature circulated from this institution have laid great stress on the beauty of the degrees furnished and the princely incomes possible for the holders of these degrees. Within the last few months, instead of a covert, unnoticeable existence, this institution has begun to insert advertisements of the home institution or of "branch" offices in newspapers in widely distributed parts of the country. A "branch" of the American University at Houston, Texas, is openly heralding, through advertisements in two papers in that city, the great incomes that chiropractic doctors can earn. An advertisement of the main institution in Chicago has also recently appeared in the newspapers of Richmond, Va. Judging from the amazing lack of equipment or teaching facilities in the home office, the "branches" are probably even more meagerly equipped to furnish an education of any value. At this time when the scientific methods used in the diagnosis and treatment of human diseases have reached so high a stage of development, the distribution of diplomas whereby ignorant and untrained "doctors" of chiropractic or any other type may attempt of care for the sick is all the more dangerous and reprehensible.—*Journal A. M. A.*, August 20, 1927.

INSULIN AND HYPOGLYCEMIA

The increasing use of insulin in clinical medicine is serving to direct attention to the possible untoward symptoms for which this hormone may become responsible under exceptional or unanticipated circumstances. The most noticeable feature of overdose with insulin is, of course, the resulting hypoglycemia. The low concentration of blood sugar is attended with manifestations of weakness that are readily relieved by suitable administration of sugar. The now widespread custom of making estimations of blood sugar for diagnostic purposes has brought to light the fact that hypoglycemia is by no means as uncommon as has been assumed. Some observers have been inclined to attribute many of the instances to what they glibly designate hyperinsulinism. It is questionable, however, whether hypoglycemia and hyperinsulinism are invariably closely interrelated. A lowered content of sugar in the blood may be attended by weakness, dizziness, pallor, sweating, hunger, disorientation, occasionally syncope and stupor, all symptoms of overdosage with insulin. On the other hand, all these typical manifestations may be missing even when the hypoglycemia is accurately established. Conversely, Harrop* has demonstrated at the Johns Hopkins Hospital that the administration of carbohydrate to unconscious persons in insulin reactions does not always have the immediate prompt effect that we have been led to anticipate. The degree of hypoglycemia apparently does not accurately determine the severity of the reaction, nor does the administration of sugar always relieve it. Recovery of consciousness may occur spontaneously even when the blood sugar is at a low level of concentration. Harrop regards it as probable that the toxic effects noted, especially the marked mental disturbances, may be due partly, or in certain cases entirely, to some other action of insulin. These are possibilities that need to be recognized in these days when insulin has come to occupy a prominent place in therapy. —Jour. A. M. A., September 17, 1927.

* Harrop, G. A.: Hypoglycemia and the Toxic Effects of Insulin, Arch. Int. Med. 40:216 (Aug.) 1927.

THE STORAGE OF WATER IN THE BODY

The extent to which the human body serves as a reservoir of water is rarely appreciated until

we are reminded of the facts through the medium of numerical statistics. As water represents little less than two thirds of the entire organism, a person of average weight is the carrier of approximately a hundred pounds (45 Kg.) of the fluid. The disposal of these few gallons of water is regulated to a nicety. Compensation for the losses through the various excretory paths is regularly made up by the intake of fluid, together with the contribution of water derived from the oxidative processes in the body whereby hydrogen is converted to water. There are, however, times of stress when the compensatory regulation fails. The balance is upset: water may be lost without being restored; or the excretory organs may fail to remove the surplus with their usual efficiency. Experience teaches what distress may attend either of these eventualities. The extremes are represented in thirst with attendant anhydremia on the one hand, or in the different manifestations of edema on the other. What happens to the water reservoirs in times of unusual stress? A partial answer to this is given by recent observations of Skelton* at the University of Minnesota. They confirm the fact that half the water of the body is in the muscles; the skin contains about one-fifth; and the blood—the most "watery" of all the tissues—holds only about 7 per cent, or one fourteenth of the fluid. Skelton withdrew water from the body by the device of hemorrhage; and he added water by injection of fluids. Thus he ascertained that, although the muscles lose the least per unit mass of tissue, they give up more fluid than any other tissue when there is marked withdrawal of water from the body; and they also take up by far the greatest portion of any water added per se or as hypotonic salt solution. The liver and intestine appear to respond more quickly than any other tissues when there is an alteration in the water content of the body. The skin is also drawn on in extreme dehydration emergencies. But the main result of Skelton's study is that the muscles represent the most important water reserves of the body. They store the greatest quantity of any excess, and act as a safeguard against the loss of too much water.—Jour. A. M. A., September 17, 1927.

* Skelton, Harold: The Storage of Water by Various Tissues of the Body, Arch. Int. Med. 40.141 (Aug.) 1927.

CIRCULATION AS FACTOR IN PROSTATIC SURGERY

George Gilbert Smith, Boston (Journal A. M. A., September 17, 1927), has investigated the causes of death in 150 prostratectomies. There were sixteen deaths; pneumonia or pulmonary infarct caused four; sepsis caused two; pyelonephritis, duodenal ulcer, cerebral hemorrhage and carcinomatosis caused one each; cardiac disease caused six. In at least two others the cardiovascular condition played a very important part. One man who died of pneumonia had a sever myocarditis; the man who died of cerebral hemorrhage had a blood pressure of 200 cystolic and 115 diastolic. In addition to these fatal cases, a number of others showed evidences of more or less serious disturbance of the circulation at some time while in the hospital. One patient, whose heart became acutely dilated, was set straight again by venesection. In some cases cardiac crises developed rapidly; in others there was a gradual development of cardiac insufficiency, the signs of which were a falling blood pressure, rales in the pulmonary bases, a rising pulse rate, and a diminishing output of urine. The condition of myocardium and its arteries is the important factor in the behavior of the heart during and after prostatectomy. In the selection of the time and method of operation and the type of anesthesia, the surgeon must attach even greater weight to the condition of the cardiovascular system than to the condition of the kidneys. The surgeon must understand the essentials of cardiac physiology and therapy if he would give his patients who undergo prostatectomy the best chance to survive.

BREAST FEEDING PROBLEMS

In the Portland Welfare Clinics, breast feeding is especially emphasized. During the first three years of the clinics, among the 685 babies registered under 2 years of age, the mortality was 0.8 per cent, while the coincident city death rate for the same age group was 6.5 per cent. That the breast feeding is too short in the majority of cases, as asserted by C. Ulysses Moore and Helen G. Dennis, Portland, Ore. (Journal A. M. A., September 17, 1927), is demonstrated by the fact that in many communities not more than 15 per cent of infants are breast fed for nine months or more. The presence in breast milk of antibodies for human diseases merits more consideration. Increased emphasis on breast feeding reduces morbidity and mortality. The commonest breast feeding problems of the infantile period are hypergalactia and hypogalactia. Illustrative cases are given to indicate solutions. Establishing or reestablishing a flow of breast milk is often complicated by the infant's refusal of the breast. A breast feeding device called the breast feeder has been developed which enables a baby to obtain complemental food while nursing at its mother's breast. Parenteral and enteral diseases are more permanently cured by keeping a baby on the breast than by weaning it. A good rule to follow is that any mother who is well enough to care for her child is capable of nursing it.

PREVENTION OF ANOREXIA IN CHILDREN

The plan of prevention of anorexia in children outlined by C. A. Aldrich, Winnetka, Ill. (Journal A. M. A., September 17, 1927), consists first of all, in instructing mothers and nurses as to the nature of anorexia while their babies were young, at 2 o 3 months of age. They were emphatically told never to urge their children to eat except under express orders, and were asked to report refusal just as they would report vomiting or loose stools. Treatment of the first attack always consisted in a reduction of food. It should be taught that anorexia is usually the first symptom of infection and that it precedes all other signs of the common cold. Therefore, when a baby first refused its bottle the mother was told to reduce the feedings and to look out for an illness. Since it was soon found that many cases had their beginning at the weaning period, prevention of weaning difficulties became important. To this end, all babies were given an occasional bottle from birth, often enough so that they remembered the bottle as a friend. This practically eliminated difficulty in getting babies to take bottle food. Since it was often difficult to get babies to make such marked changes as from cereal to vegetable, these variations were made gradually and mothers were instructed not to force new food on them. Cod liver oil and orange juice were given from the first few weeks of life to avoid later struggles.

All babies were put on the minimal diet which would cause a satisfactory gain in weight. After the first year, diet lists were given but parents were told to let the child's appetite to be the sole judge as to the amount of food to be taken. No caloric diets were prescribed. Mothers were told to leave their children alone at mealtime as much as possible and not to talk about eating. They were told to try to develop a detached attitude toward the child at meal time and never to force food. The child's appetite was given the choice of food. It was not considered advisable to "make the child eat everything so that later on he would like everything." Parents were instructed that nothing could be worse for appetites than pitched battles over meals. When the child was about 1 year of age, all parents were asked to begin reading books on child psychology, and a list of some of these was recommended. Nourishment between meals was not advised for any child. The results of such prophylactic treatment, as shown by statistics obtained in 199 consecutive cases, demonstrates that (a) in this series it was not harmful to the nutrition of the children to advise strongly against forced feeding, as the group averaged 3.6 pounds above weight for age, and (b) there were no children in this group who were malnourished except those suffering from physical disease.

STUDIES OF STAPHYLOCOCCUS FILTRATES

Freshly isolated strains of staphylococcus aureus were obtained by Isador Pilot and M. L. Afremow, Chicago (Journal A. M. A., September 17, 1927), from various lesions, such as furuncles, carbuncles, abscesses of the breast and kidney, and from fatal cases of staphylococcus septic pyemia. They produced typical pigment, and on blood agar 50 per cent of the strains caused hemolysis. Both hemolytic and nonhemolytic strains produced potent toxins in the filtrates. All strains tested yielded exotoxin, which, however, varied considerably in potency. Sterile broth filtrates of staphylococcus aureus produce a skin reaction when injected intradermally in the forearm of man. These reactions are neutralized by serums of the rabbit and horse immunized by injection of staphylococcus filtrates. It would appear that such filtrates contain a soluble toxin which forms antitoxin when introduced into rabbits and horses.

RELATIONS OF CARDIOVASCULAR DISEASE TO HEMIPLEGIA

There are three causes developing hemiplegia in the course of cardiovascular disease: embolism, thrombosis and rupture of a blood vessel. The relation of cardiovascular disease to hemiplegia in those nine cases out of ten that are not due to primary disease in the brain is that of cause and effect, and after the accident has occurred the treatment still remains at least a 50 per cent cardiovascular problem. In those examples of hemiplegia, either transient or chronic, that come under the care of the cardiologist, little has been gained by emphasis of the neurologic problem, while much improvement has often resulted from the fundamental treatment of the arteriosclerosis and cardiosclerosis that usually go with it. In the experience of Louis Faugeres Bishop, New York (Journal A. M. A., September 17, 1927), those patients with hemiplegia have done best in the way of restoration if they promptly attained and continuously maintained a compensatory high blood pressure, while those who remained of the asthenic type with low blood pressure and a general softness of all the tissue were the ones who degenerated much more rapidly. While one can never escape from the fear of sudden accidents in cardiovascular disease, nevertheless the more experience one has, the more one dreads the certain death that follows the gradual deterioration of bedridden, overfed and overdrugged patients. In coronary disease of the heart, it is Bishop's policy with regard to this accident in patients who have had a definite appoplexy of the heart, as it might be called, involving excruciating pain of hours' duration, functional failure of the heart and everything that pertains to the classic picture of coronary disease, to instruct them, after a reasonable amount of rest, that exercise must be begun. He starts these patients on graduated exercises, teaches them the use of glyceryl trinitrate symptomatically to relieve pain, and tries to build up in every way their physical strength and improve their general physiologic condition. Under this plan he has seen many restored to a useful, though, of course, restricted life, who under the old idea that rest treatment must continue until the tendency to pain disappears, would have drifted into a life of chronic invalidism.

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